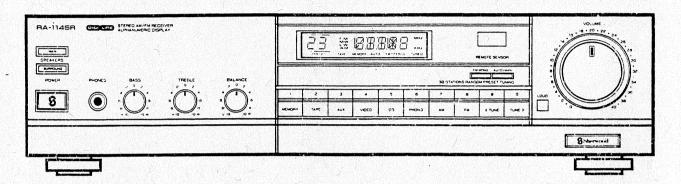
# SERVICE MANUAL

# **RA-1145R**

### OPTIMUM DIGITAL RECEIVER



#### **■ CONTENTS**

To Service Personnel	Exploded View of Cabinet & Chassis 25
Specifications	Electrical Parts List
Block Diagram	Mechanical Parts List
Circuit Description 8	Semiconductor Lead Identification &
Electrical Adjustment Procedure	Internal Diagram
Top & Bottom View of P.C. Boards 17	Schematic Diagram Separate Sheet
Point to Point Wiring Diagram 23	

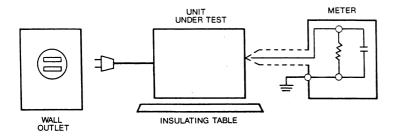
#### NOTICE

- This manual is for authorized and qualified service personnel, so the basic service procedure and commonsense of safety are not described in this manual.
- Sherwood always makes every endeavor to improve the products, therefore the specifications and data provided are subject to change without notice.



#### To Service Personnel

- 1. Critical Components Information.
  - The A marked components on schematic diagram and parts list be replaced with the parts having specifications equal to these originally installed.
- Leakage Current Measurement (For 120V Version only).When the service has been completed, make sure that all exposed conductive surfaces are properly insulated from the power supply circuits.
  - Leakage current meter should have an input impedance of 1500 ohms resistive shunted by  $0.15\mu F$  capacitor.
  - Leakage current shall not be exceed 0.5mA.



- 3. Turn the unit OFF, and disconnect the power supply cord during disassembly and replacement of parts.
- 4. When the service has been completed, be sure to chesk all protective device and spacings before returning the unit to customer.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" with in the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock hazard to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

7. Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

# Specification

#### DIN/IEC Version

Amplifier Section		
Power Output, per Channel		EE\A/
IEC standard: 63 Hz to 12.5 kHz, 8 ohms THD 0.7%.		SOVA
DIN standard: 1KHz, 8 ohms THD 1%		0.0150/
THD6dB Rated Output, 8 ohms, 1kHz		0.015%
IMD6 dB_Bated Output_at 8 ohms 60Hz:7kHz=4:1 Sl	MP1E	0.009%
Damping Factor at 1kHz, 8 ohms		70
In the Consistent for EOW output 9 obms at 1kHz		
Phono		2.5mV
Linear Innuts		IDUMV
Phono Pre-amp Input Overload at 1kHz, 0.1% THD		170mV
at 10kHz 0.1% THD		750mV
Signal to Noise Ratio, IEC "A" wtd/unwtd VOL Adj. 50W	1	
Phono : 5mV input 2.2k ohm shorted,		80/75dB
Linear Inputs: 500mV input, 22k ohm shorted, VOL	Adi 50W	95/90dB
	-a.j. 5011	
Phono, RIAA 30-20,000 Hz		± 0.5dB
Phono, RIAA 30-20,000Hz		5 Hz _ 40kHz
Linear inputs at 1W, -3dB		±10.4B
Tone Control, BASS at 100Hz, TREBLE at 10kHz		TIOOD
Loudness Contour		. 7.40
at 100 Hz.		+ /QB
at 10kHz		+ 3.008
FM Section		
Tuning Range	USA/CANADA/AUSTRALIA Version: 8	7.5 — 108MHz
fulling hange	EUROPE Version:87.50 - 108.0 MHz	
Scanning Frequency Interval (Auto/Manual)	USA/CANADA Version: 0.1 MHz	
Scanning Frequency interval (Auto) Maridai/	EUROPE/AUSTRALIA Version 0.05 MH:	7
11 11 0 11 15 C/N 2010 1000/ Mod		-
Usable Sensitivity at S/N=26dB, 100% Mod	26\/ /26.4dBf\	
50 dB Quieting Sensitivity, Stereo	0.20/	
THD at 1/kHz, 100% Mod, Mono	0.2%	
Stereo		
Stereo Separation at 1 kHz	50 dB	
Signal to Noise Ratio IHF Mono	/5dB	
Stereo	. 70dB	
Frequency Response 20-15,000 Hz	+0.5/-3dB	
Audio Output Voltage, 1 kHz 100% Mod	. 600 mV	
De-emphasis	. USA/CANADA Version: 75 μsec	
	AUSTRALIA/EUROPE Version: 50 μsec	:
AM Section		
Tuning Range	LISA/CANADA Version: 520 - 1710 kHz	
luning Range	AUSTRALIA/EUROPE Version: 522 — 1	1611
Scanning Frequency Interval (Auto/Manual)	LISA/CANADA Version: 10kHz	
Scanning Frequency Interval (Auto/Ivianual)	AUSTRALIA/EUROPE Version: 9kHz	
	AUSTRALIA/ LUNOT L VEISION. SKI12	
Usable Sensitivity IHF at S+N/N=20dB,	F00 \//-	
Loop Antenna	. 500 μV/M	
Signal to Noise Ratio, 30% Mod Ref	. 4008	
Audio Output Voltage, 400Hz, 30% Mod	. 15UMV	

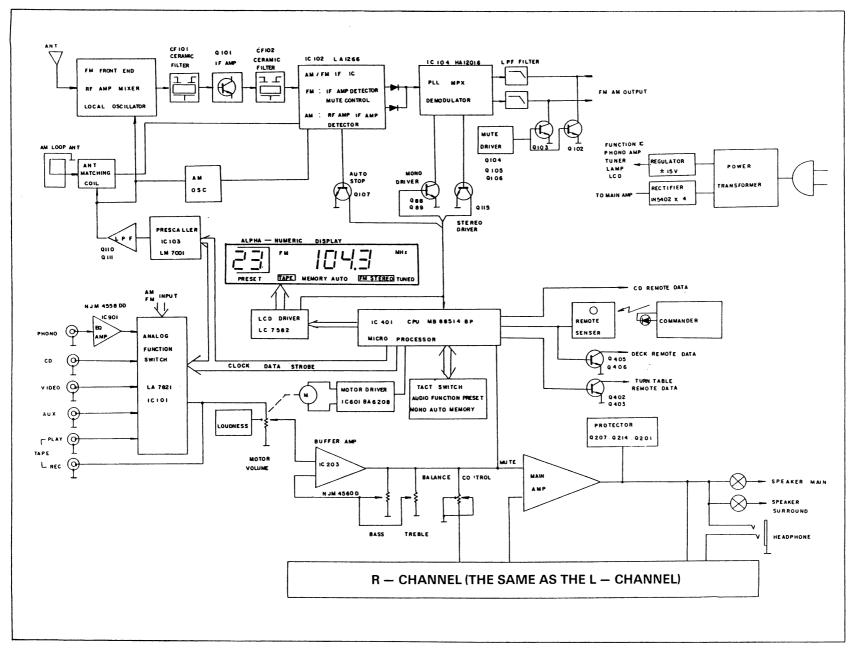
#### IHF/EIA Version

Power Output per Channel continuous RMS with no more than 0.08% THD at 8 ohms, 20-20,000Hz at 8 ohms, 1kHz 55W	Amplifier Section		
at 8 ohms, 20-20,000Hz 55W at 8 ohms, 1kHz 55W Inter Modulation Distortion, 60Hz:7kHz=4:1 SMPTE 50W output into 8 ohms	· ·	re than 0.08% THD	
at 8 ohms, 1kHz	at 8 ohms 20-20 000 Hz		50W
Inter Modulation Distortion, 60Hz.7kHz=4:1 SMPTE	at 8 ohms, 1kHz		55W
SOW output into 8 ohms	Inter Modulation Distortion, 60Hz:7kHz=4:1 SMPTE		
Damping Factor at 1 kHz, 8 ohms   70	50W output into 8 ohms	,	0.08%
Input Sensitivity for 50W output 8 ohms at 1kHz   Phono	Damping Factor at 1 kHz, 8 ohms		70
Linear Inputs	Input Sonsitivity for 50W output 8 ohms at 1kHz		
Linear Inputs	Phono		2.5mV
Signal to Noise Ratio, IHF "A" wtd/unwtd   Phono.	Linear Inputs		150mV
Signal to Noise Ratio, IHF "A" wtd/unwtd Phono	Phono Pre-amp Input Overload at 1kHz, 0.1% THD		1/0mV
Phono	at 10 kHz, 0.1% THD		/50mV
Linear Inputs   92/85dB	Signal to Noise Ratio, IHF "A" wtd/unwtd		+ 0 E 4P
Frequency Response	Phono		92/854B
Phono, RIAA 30-20,000 Hz         ± 0.5dB           Linear Inputs at IW, -3dB         5Hz - 40kHz           Tone Control, BASS at 100Hz, TREBLE at 10kHz         ± 10dB           Loudness Contour         at 100Hz         + 7dB           at 10kHz         + 3.0dB           Channel Separation at AUX input shorted         60dB           10Wz         60dB           1kHz         60dB           10 kHz         50dB           FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz           EUROPE Version: 87.5 – 108.0 MHz         EUROPE Version: 187.5 – 108.0 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA/AUSTRALIA Version: 0.05MHz           Usable Sensitivity IHF at S + N + D/N = 30dB         1.7 μV (9.8 dBf)           50dB Quieting Sensitivity, Stereo         36 μV (9.8 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo Separation at 1kHz         50 dB           Stereo Separation at 1kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         75 dB           Sudo Output Voltage, 1kHz 100% Mod         600mV           De-emphaşis         USA/CANADA Version: 520 – 1710 kHz           AUSTRALIA/EUROPE Version: 5			32/03GB
Linear Inputs at 1W, —3dB	Phone PIAA 20 20 000 Hz		+0.5dB
Tone Control, BASS at 100Hz, TREBLE at 10kHz	Linear Inputs at 1\W = 3dB		5Hz — 40kHz
Loudness Contour         at 100Hz         +7dB           at 100Hz         +3.0dB           Channel Separation at AUX input shorted         60 dB           100Hz         60 dB           1kHz         60 dB           10 kHz         50 dB           FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108.0MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.1 MHz           EUROPE/PICTRALIA Version: 0.1 MHz           EUROPE/PICTRALIA Version: 0.05 MHz           Usable Sensitivity IHF at S+N+D/N=30 dB         1.7 μV (9.8 dBf)           50 dB Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo         0.25%           Stereo         0.25%           Stereo         0.25%           Stereo         70 dB	Tone Control BASS at 100Hz TREBLE at 10kHz		± 10dB
at 100Hz			
Channel Separation at AUX input shorted 100Hz         60 dB           1kHz         60 dB           10 kHz         50 dB           10 kHz         50 dB           FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.1 MHz           Usable Sensitivity IHF at S+N+D/N=30 dB         1.7 μV (9.8 dBf)           50 dB Quieting Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo Separation at 1kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         70 dB           Frequency Response 20-15,000 Hz         +0.5/-3dB           Audio Output Voltage, 1kHz 100% Mod         600mV           De-emphaşis         USA/CANADA Version: 75 μsec           AUSTRALIA/EUROPE Version: 50 μsec           AM Section         USA/CANADA Version: 520 – 1710 kHz           Tuning Range         USA/CANADA Version: 520 – 1710 kHz           AUSTRALIA/EUROPE Version: 9 kHz         USA/CANADA Version: 9 kHz           Usable Sensitivity IHF at S+N/N=20dB,         AUSTRALIA/EUROPE Version: 9 kHz           Usable Sensitivity IHF at S+			. +7dB
100 Hz	at 10kHz		. +3.0dB
1 kHz         60 dB           10 kHz         50 dB           FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz           EUROPE Version: 87.5 – 108.0 MHz         EUROPE Version: 0.1 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.1 MHz           Usable Sensitivity IHF at S + N + D/N = 30 dB         1.7 μV (9.8 dBf)           50 dB Quieting Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo Separation at 1 kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         70 dB           Frequency Response 20-15,000 Hz         +0.5/-3dB           Audio Output Voltage, 1kHz 100% Mod         600mV           De-emphasis         USA/CANADA Version: 75 μsec           AUSTRALIA/EUROPE Version: 50 μsec           AM Section         USA/CANADA Version: 520 – 1710 kHz           AUSTRALIA/EUROPE Version: 522 – 1611 kHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 10 kHz           AUSTRALIA/EUROPE Version: 9 kHz         USA/CANADA Version: 9 kHz	Channel Separation at AUX input shorted		
FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.1 MHz           EUROPE Version: 87.5 – 108.0 MHz         EUROPE/AUSTRALIA Version: 0.05 MHz           Usable Sensitivity IHF at S+N+D/N=30 dB         1.7 μV (9.8 dBf)           50 dB Quieting Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo Separation at 1kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         70 dB           Frequency Response 20-15,000 Hz         +0.5/-3dB           Audio Output Voltage, 1kHz 100% Mod         600mV           De-emphasis         USA/CANADA Version: 75 μsec           AUSTRALIA/EUROPE Version: 50 μsec           AM Section           Tuning Range         USA/CANADA Version: 520 – 1710 kHz           AUSTRALIA/EUROPE Version: 522 – 1611kHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 10 kHz           AUSTRALIA/EUROPE Version: 9 kHz           Usable Sensitivity IHF at S+N/N=20dB,         Loop Antenna         500 μV/m           Signal to Noise Ratio, 30% Mod Ref.         40 dB			
FM Section           Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz           EUROPE Version: 87.5 – 108.0 MHz         EUROPE Version: 0.1 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.05 MHz           Usable Sensitivity IHF at S + N + D/N = 30 dB         1.7 μV (9.8 dBf)           50 dB Quieting Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo Separation at 1kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         70 dB           Frequency Response 20-15,000 Hz         +0.5/-3dB           Audio Output Voltage, 1kHz 100% Mod         600mV           De-emphasis         USA/CANADA Version: 75 μsec           AUSTRALIA/EUROPE Version: 50 μsec           AM Section           Tuning Range         USA/CANADA Version: 10 kHz           AUSTRALIA/EUROPE Version: 522 — 1611kHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 10 kHz           AUSTRALIA/EUROPE Version: 9 kHz           Usable Sensitivity IHF at S + N/N = 20dB,         AUSTRALIA/EUROPE Version: 9 kHz           Usable Sensitivity IHF at S + N/N = 20dB,         AUSTRALIA/EUROPE Version: 9 kHz <td></td> <td></td> <td></td>			
Tuning Range         USA/CANADA/AUSTRALIA Version: 87.5 – 108 MHz EUROPE Version: 87.5 – 108.0 MHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 0.1 MHz EUROPE/AUSTRALIA Version: 0.05 MHz           Usable Sensitivity IHF at S+N+D/N=30dB         1.7 μV (9.8 dBf)           50 dB Quieting Sensitivity, Stereo         36 μV (36.4 dBf)           THD at 1 kHz, 40 kHz Dev, Mono         0.15%           Stereo         0.25%           Stereo Separation at 1kHz         50 dB           Signal to Noise Ratio IHF, Mono         75 dB           Stereo         70 dB           Frequency Response 20-15,000 Hz         +0.5/-3dB           Audio Output Voltage, 1kHz 100% Mod         600mV           De-emphaşis         USA/CANADA Version: 75 μsec           AUSTRALIA/EUROPE Version: 50 μsec           AM Section           Tuning Range         USA/CANADA Version: 520 – 1710 kHz           AUSTRALIA/EUROPE Version: 522 – 1611 kHz           Scanning Frequency Interval (Auto/Manual)         USA/CANADA Version: 10 kHz           AUSTRALIA/EUROPE Version: 9 kHz           Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna         500 μV/m           Signal to Noise Ratio, 30% Mod Ref.         40 dB	10 kHz		. 50 dB
EUROPE Version: 87.5 – 108.0 MHz	FM Section		
EUROPE Version: 87.5 – 108.0 MHz	Tuning Range	USA/CANADA/AUSTRALIA Version: 8	7 5 — 108 MHz
Scanning Frequency Interval (Auto/Manual)	running mange	FUROPE Version: 87.5 – 108.0MHz	
Substitutive   HF at S+N+D/N=30dB			
50 dB Quieting Sensitivity, Stereo 36 μV (36.4 dBf)  THD at 1 kHz, 40 kHz Dev, Mono 0.15%  Stereo 0.25%  Stereo Separation at 1kHz 50 dB  Signal to Noise Ratio IHF, Mono 75 dB  Stereo 70 dB  Frequency Response 20-15,000 Hz +0.5/−3 dB  Audio Output Voltage, 1kHz 100% Mod 600mV  De-emphaşis USA/CANADA Version: 75 μsec  AUSTRALIA/EUROPE Version: 50 μsec  AM Section  Tuning Range USA/CANADA Version: 520 − 1710 kHz  AUSTRALIA/EUROPE Version: 522 − 1611 kHz  Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz  AUSTRALIA/EUROPE Version: 9 kHz  Usable Sensitivity IHF at S+N/N=20dB,  Loop Antenna 500 μV/m  Signal to Noise Ratio, 30% Mod Ref. 40 dB		EUROPE/AUSTRALIA Version: 0.05MF	łz
50 dB Quieting Sensitivity, Stereo 36 μV (36.4 dBf)  THD at 1 kHz, 40 kHz Dev, Mono 0.15%  Stereo 0.25%  Stereo Separation at 1kHz 50 dB  Signal to Noise Ratio IHF, Mono 75 dB  Stereo 70 dB  Frequency Response 20-15,000 Hz +0.5/−3 dB  Audio Output Voltage, 1kHz 100% Mod 600mV  De-emphaşis USA/CANADA Version: 75 μsec  AUSTRALIA/EUROPE Version: 50 μsec  AM Section  Tuning Range USA/CANADA Version: 520 − 1710 kHz  AUSTRALIA/EUROPE Version: 522 − 1611 kHz  Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz  AUSTRALIA/EUROPE Version: 9 kHz  Usable Sensitivity IHF at S+N/N=20dB,  Loop Antenna 500 μV/m  Signal to Noise Ratio, 30% Mod Ref. 40 dB	Usable Sensitivity IHF at S+N+D/N=30dB	. 1.7 μV (9.8 dBf)	
THD at 1 kHz, 40 kHz Dev, Mono       0.15%         Stereo       0.25%         Stereo Separation at 1kHz       50 dB         Signal to Noise Ratio IHF, Mono       75 dB         Stereo       70 dB         Frequency Response 20-15,000 Hz       +0.5/-3dB         Audio Output Voltage, 1kHz 100% Mod       600mV         De-emphaşis       USA/CANADA Version: 75μsec         AUSTRALIA/EUROPE Version: 50μsec         AM Section         Tuning Range       USA/CANADA Version: 520 – 1710 kHz         AUSTRALIA/EUROPE Version: 522 – 1611 kHz         Scanning Frequency Interval (Auto/Manual)       USA/CANADA Version: 10 kHz         AUSTRALIA/EUROPE Version: 9 kHz         Usable Sensitivity IHF at S+N/N=20dB,       Loop Antenna       500 μV/m         Signal to Noise Ratio, 30% Mod Ref.       40 dB	50 dB Quieting Sensitivity, Stereo	. 36 µV (36.4 dBf)	
Stereo Separation at 1kHz			
Signal to Noise Ratio IHF, Mono   75dB   Stereo   70dB   70dB			
Stereo			
Frequency Response 20-15,000 Hz			
Audio Output Voltage, 1kHz 100% Mod			
De-emphaşis USA/CANADA Version: 75 μsec AUSTRALIA/EUROPE Version: 50 μsec  AM Section  Tuning Range USA/CANADA Version: 520 — 1710 kHz AUSTRALIA/EUROPE Version: 522 — 1611 kHz Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna 500 μV/m Signal to Noise Ratio, 30% Mod Ref 40dB			
AUSTRALIA/EUROPE Version: 50 µsec  AM Section  Tuning Range			
AM Section Tuning Range USA/CANADA Version: 520 — 1710 kHz AUSTRALIA/EUROPE Version: 522 — 1611 kHz Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna 500 µV/m Signal to Noise Ratio, 30% Mod Ref. 40dB	Do cripriação		;
Tuning Range USA/CANADA Version: 520 — 1710 kHz AUSTRALIA/EUROPE Version: 522 — 1611 kHz Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna 500 µV/m Signal to Noise Ratio, 30% Mod Ref 40dB			
AUSTRALIA/EUROPE Version: 522 — 1611kHz Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna 500 \( \mu \text{V/m} \) Signal to Noise Ratio, 30% Mod Ref 40dB	AM Section		
AUSTRALIA/EUROPE Version: 522 — 1611kHz Scanning Frequency Interval (Auto/Manual) USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna 500 \( \mu \text{V/m} \) Signal to Noise Ratio, 30% Mod Ref 40dB	Tuning Range	. USA/CANADA Version: 520 - 1710 kHz	2
AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna	• •	AUSTRALIA/EUROPE Version: 522 — 1	
AUSTRALIA/EUROPE Version: 9 kHz Usable Sensitivity IHF at S+N/N=20dB, Loop Antenna	Scanning Frequency Interval (Auto/Manual)	. USA/CANADA Version: 10 kHz	
Loop Antenna 500 μV/m Signal to Noise Ratio, 30% Mod Ref	•	AUSTRALIA/EUROPE Version: 9kHz	
Signal to Noise Ratio, 30% Mod Ref			
Audio Output Voltage, 400Hz 30% Mod 150mV			
	Audio Output Voltage, 400Hz 30% Mod	. 150mV	

#### General

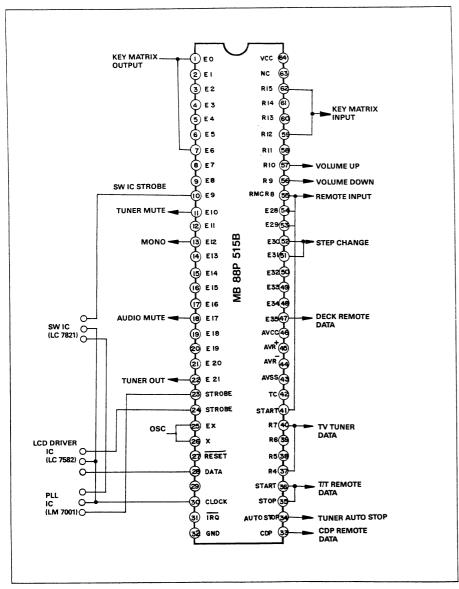
Power Requirement DIN/IEC Version	
Dimensions	(W)440×(H)100×(D)280mm (W)17.3"×(H)3.9"×(D)11.0"
Power Consumption;	
A: USA & CANADIAN MODEL	120V AC, 60Hz
B: MULTI-VOLTAGE MODEL	120V/220V AC, 60/50Hz
C: GENERAL EUROPEAN MODEL	220V AC, 50 Hz
D: WEST GERMAN & ITALIAN MODEL	220V AC, 50 Hz
E: BRITISH & AUSTRALIAN MODEL	240V AC, 50 Hz
F: SWISS & SCANDINABIAN MODEL	220V AC, 50 Hz
Weight (Net)	6kg (13.2lbs)

NOTE: Specifications and design subject to change without notice for improvements.



### Circuit Description

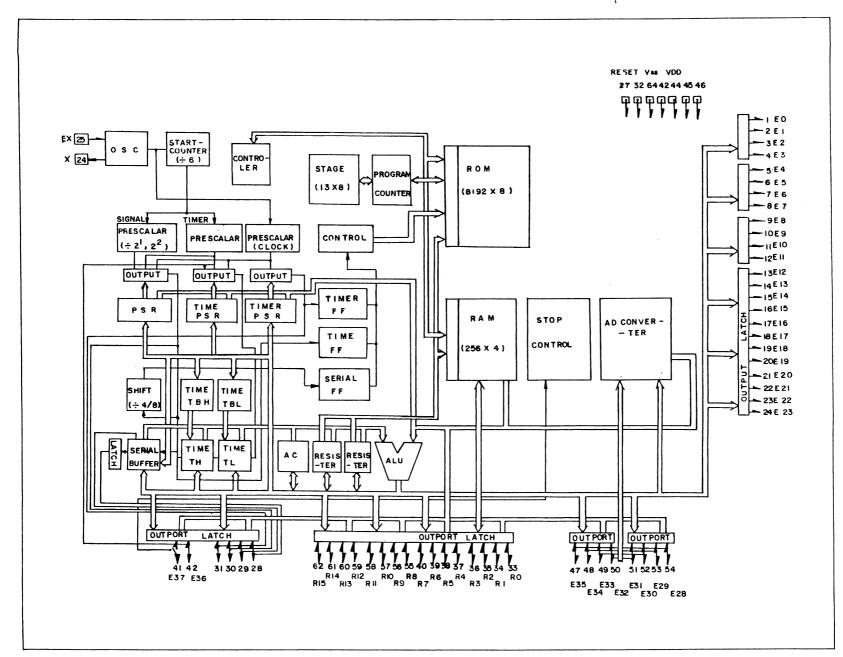
Pin Assignment:IC401



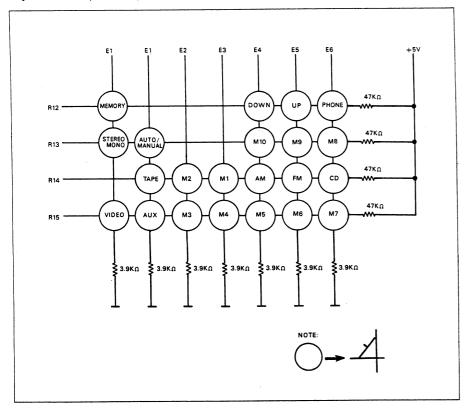
#### Functions Assignment:IC401

No	Terminal	Operating Chart	Remarks
1	KEY MATRIX OUTPUT		
2	KEY MATRIX OUTPUT		
3	KEY MATRIX OUTPUT		
4	KEY MATRIX OUTPUT		
5	KEY MATRIX OUTPUT		
6	KEY MATRIX OUTPUT		
7	KEY MATRIX OUTPUT		
8			
9			
10	SW IC STROBE		LC 7821
11	TUNER MUTE	5V	Q106
12		0V 5V	
13	FM MONO		IC 104
14		ov	
15			
16			
17			
18	AUDIO MUTE	5V	Q204
19	1	00	
20			
21		5V	
22	TUNER OUT	ov 4	Q109
23	PLL STROBE	5V 1.6m /sec	LM 7001
24	LCD STROBE	0V 30.6ms	LC7582
25	5 EX		
26	s x	6MHz	
2	7 RESET		
28	DATA		LM7001 LC7821
29	9		10,021
30	СГОСК		LC 7582
3	1 IRQ		
3	2 GND		

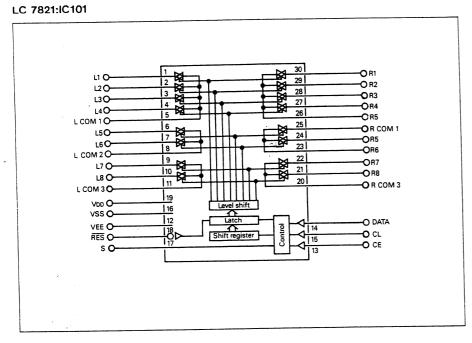
lo	Terminal	Operating Chart	Remarks
3	CDP REMOTE		
4	AUTO STOP	5∨	Q107
5	T/T STOP	0V5V	Q402
36	T/T START	0V5v	Q403
37	TV TUNER REMOTE DATA	00-	
38	TV TUNER REMOTE DATA		
39	TV TUNER REMOTE DATA		
40	TV TUNER REMOTE DATA		
41	START	REMOTE INPUT	Q404
42			
43			
44			
45			
46			
47	DECK REMOTE DATA	REMOTE INPUT	Q405B/Q406B
48			
49			
50		FM/AM	
51	STEP CHANGE	100KHz/10KHz	2.2KΩ
52	STEP CHANGE	50KHz/9KHz	100ΚΩ 5V
53	3		1000011 34
54	1		
55	RMC	REMOTE INPUT	-
56	VOLUME DOWN	5V	BA 6208
5	VOLUME UP	5V	BA 6208
5	в	ōv	
5	KEY MATRIX INPUT		
6	KEY MATRIX INPUT	0V 5V	
6	1 KEY MATRIX INPUT		
6	2 KEY MATRIX INPUT		
6	3		
6	4 Vœ	+5V	



#### Key Matrix of Input & Output



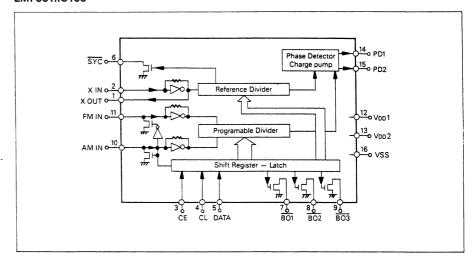
### IC Lead Identification



Pin No.	, Terminal	Description
1	Tuner	
2	Phono	Input/output terminals of
3	CD	audio signal of left channel
4	Video	
5		Control to the inside
6	AUX	analog switch at the serial
7	***	data
8	Tape Output	
9		İ
10	Tape Input	
11	Source Output	
12	VŒ	Negative power supply terminal (-15V)
13	Strobe	Serial Control terminal
14	Data	Connect terminal of
15	Clock	MB 88P 515B
16	VSS	Ground terminal
17	S	Ground terrimidi

Pin No.	Terminal	Description
18	RES	Reset terminal When power is turned ON the Condition of the analog switch is not determined but when this terminal is 'L', all analog switches are OFF.
19	VDD	Power Supply terminal (+15V)
20	Source Output	
21	Tape Input	Input/Output terminals of audio signal of right channel
22		audio signal of right chariner
23	Tape Output	Control to the inside analog
24	41.157	Control to the inside analog switch at the serial data
25 26	AUX	STATE OF THE SECOND COLOR
27	Video	
28	CD	
29	Phono	
30	Tuner	

#### LM7001:IC103



Pin No.	Terminal	Description					
1	X OUT	C					
2	XIN	Connect to the 7.2MHz crystal oscillator					
3	CE	Chip enable terminal. Connect to the PLL terminal of IC401					
4	CL	Serial clock input terminal Connect to the CLOCK terminal of IC401					
5	DATA	Serial data input terminal Connect to the DATA terminal of IC 401					
6	SYN	Not used.					
7	BAND 1	BAND selector output terminal .					
8	BAND 2	BAND BAND1 BAND2					
		FM H L FM A L H					
9	ANT	Antenna Selector output terminal. "H" when antenna A and AM.					
10	AMIN	AM local oscillator input terminal .					
11	FMIN	FM local oscillator terminal .					
12	VDD1	Power supply terminal for back-up.					
13	VDD2	Power supply terminal .					
14	PD1	Charge out of the phase detector which constitutes the PLL. High level is output when the divided local oscillator frequency is high than the reference frequency.					
15	VD2	In the opposite case, low level is output. Floating occurs when the frequency matched The output is applied to the variable capacitor diode in the local oscillator through the low pass filters.					
16	Vss	Ground terminal .					

## Electrical Adjustment Procedure

\*Before making adjustment, operate the appliance for more than 2 minutes.

#### • TUNER SECTION

\* Note: 1. 0 dB=1 $\mu$ V 2. FM 100% Mod.=75 kHz Dev. 3. DVM=Digital Volt Meter 4. SG=Signal Generator 5. SSG=Stereo Signal Generator

#### 1. MW Adjustment

• Selector; TUNER, MW/AM

• In case of 2 band appliance(AM/FM), MW is converted into AM.

No.	Cubinat	Subject Feed Signal		Setting	Measure	Adujst	Adujst	Remark
NO.	Subject	From	То	Appliance	Output	Point	For	Hemaik
1.	Tuning Voltage	520kHz		*1) 520kHz	Connect DVM	T104	DC 1 ± 0.4V	
		1710kHz		*2) 1710kHz	Same as above	T102	DC 8.5 ± 0.4V	
		Repeat the step     In case the freq.     *2)1611 kHz	*1) and is 9kHz	I *2) until D\ ;, the freq.of	/M reads the tunin AM SG and applia	g voltage ance sho	e mentioned above uld be changed to	e. o *1) 522 kHz
2.	IF	AM IF Genescope	ANT.		Connect IF Genescope	T106	Symmetrical curve on AM IF Genescope	
3.	RF Tuning	*1) AM SG 600kHz, 75 dB 400Hz(30% MOD.)	ANT.	600kHz	Output Connect AC Voltmeter & Oscilloscope	T105	Maximize audio output	AM SG TEST LOC AN
		*2) AM SG 1400kHz, 75 dB 400Hz(30% MOD.)	ANT.	1400kHz	Same as above	T101	Same as above	APPLIANC
	Feed Signal should be fed to Loop ANT.through the TEST Loop ant., 60cm distant from appliance Repeat the step *1) & *2) until no further improvement occurs. In case the freq. is 9kHz, the freq. of AM SG and appliance should be changed to *1) 6 kHz *2)1404 kHz							
4.	Tuned Level	AM SG 1000kHz, 83 dB 400Hz(30% MOD.)	ANT.	1000kHz		VR101		Tuned light on LCD

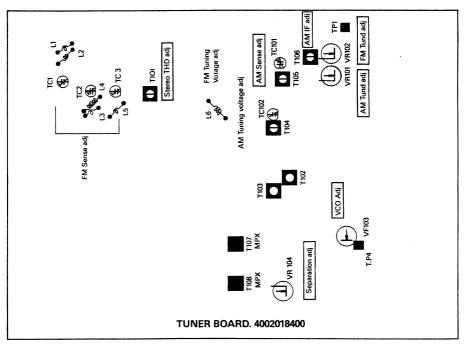
#### 2. FM Adjustment

Selector; TUNER, FM (Mono/Stereo)
 Daviation; USA/CANADA (75 kHz Dev.)
 EUROPE(40 kHz Dev.)

NI -	C. Lina	Feed Signal		Setting	Measure	Adujst	Adujst	Remark
No.	Subject	From	То	Appliance	Output	Point	For	Hemark
1.	Tuning			108 MHz	Connect DVM		DC 8.3 ± 0.2V	Fixed
	Voltage			87.5 MHz			DC 2±0.2V	
2.	IF	FM IF Genescope	ANT.	98MHz 66 dB	Connect IF Genescope	T102	Symmetrical S curve on AM IF Genescope	
					Connect DVM		DC 0 ± 50mV	
				Detune	Connect Oscilloscope	T102	Maximize noise output	In case IF Genescope
					Connect DVM		DC 0 ± 50 mV	is not available
3.	RF	*1) FM SG 90 MHz, 2.5µV 1kHz (75 kHz Dev.)	ANT.	90 MHz MONO	Connect AC Voltmeter, Distortion Analyzer and Oscilloscope	L2 L2 L3 L4	Maximize audio output	L5 is D Version
		*2) FM SG 106MHz, 2.5 <sub>\(\mu\)</sub> V 1kHz (75 kHz Dev.)	ANT.	106 MHz MONO	Same as above	TC2	Same as above	TC3 is D Version
		<ul> <li>Repeat the step</li> </ul>	*1) and	d *2) until n	o further improvem	nent occu	irs.	
4.	THD (Mono)	FM SG 98MHz, 60 dB	ANT.	98 MHz MONO	*1) Connect DVM	T102	DC 0±0.1V	
		1kHz (75kHz dev.)			*2) Connect AC Voltmeter & Distortion Analyzer	T103	Minimize distortion	
		Adjust the step	*1) 1st	and the ste	p *2) next and rep	eat until	no further improv	ement occurs.
5.	MPX (VCO)	FM SSG 98 MHz, 60 dB 1kHz (75kHz Dev.) Pilot 19kHz (9% Mod.)	ANT.	98MHz Stereo	TP4 Connect freq. Counter	VR103	Read 76kHz	
		Before adjustm	ent, set	the FM SS	G to "Mod. OFF".			
6.	THD (Stereo)	FM SSG 98 MHz, 60 dB 1kHz (75kHz Dev.) Pilot 19kHz (9% Mod.)	ANT.	98MHz Stereo	Output connect AC voltmeter & distortion	T101	Minimize distortion	

NI-	Cubicat	Feed Signal		Setting Measure	Adujst	Adujst	Remark	
No.	Subject	From	То	Appliance	Output	Point	For	Remark
7.	Mute Level	FM SG 98MHz, 10µV 1kHz (75kHz Dev.)	ANT	98MHz Stereo	Output connect oscilloscope	VR102	Muting occurs marginally	
8.	Sepa- ration	*1) FM SSG 98MHz, 60 dB 1kHz (75kHz, Dev) Pilot 19kHz (9% Mod) (Lch → Rch)	ANT	98MHz Stereo	Rch Mod connect AC voltmeter & distortion analyzer and oscilloscope	VR104	Minimize Output	
		*2) Same as above (Rch → Lch)			Lch Mod connect same as above	VR104	Minimize output	
		Repeat the step *1) and *2) until no further improvement occurs.						

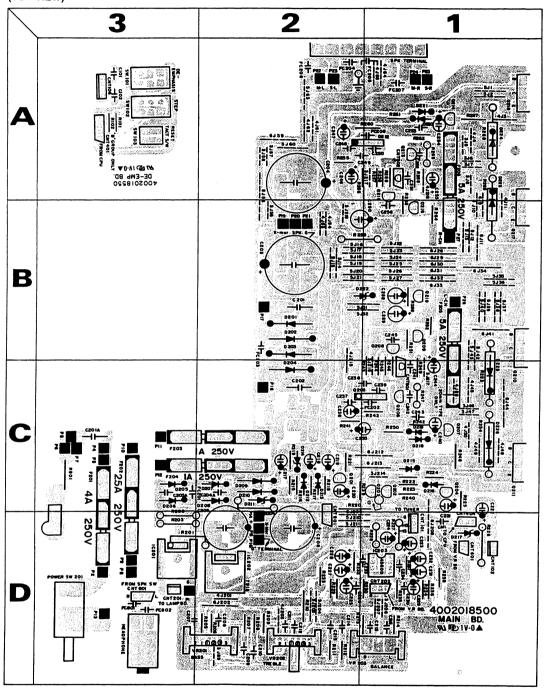
#### **Adjustment Point**



# Top & Bottom View of P.C Boards

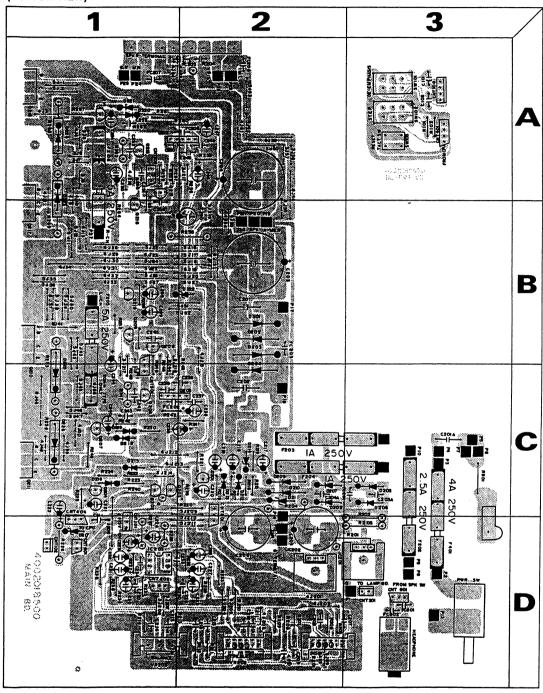
#### **MAIN BOARD 4002018500**

(TOP VIEW)



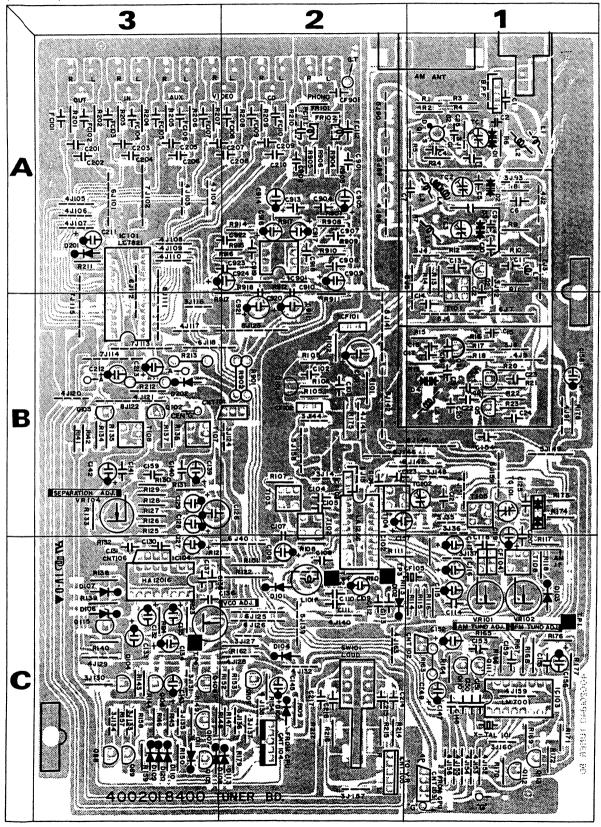
### MAIN BOARD 4002018500

(BOTTOM VIEW)



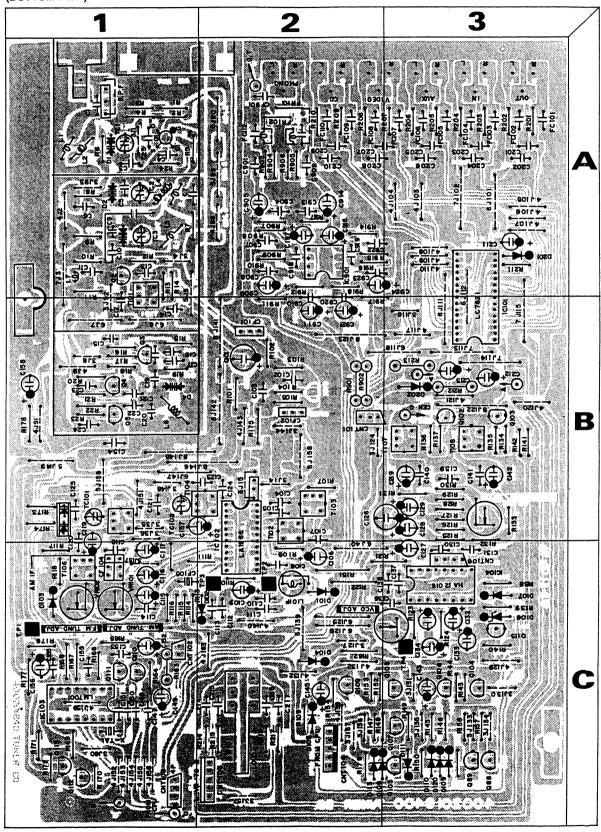
#### **TUNER BOARD 4002018400**

(TOP VIEW)



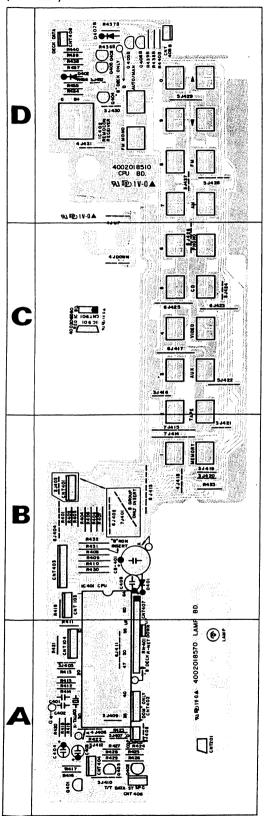
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(BOTTOM VIEW)

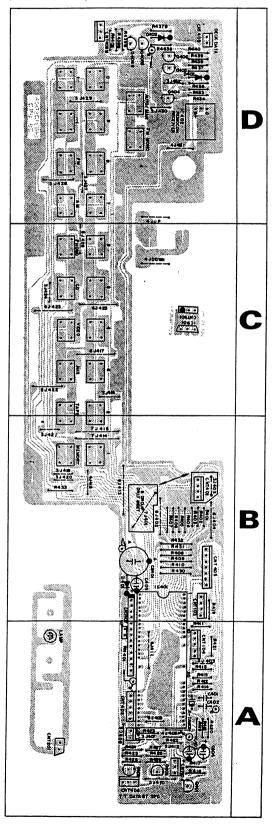


#### **CPU BOARD 4002018510**

(TOP VIEW)

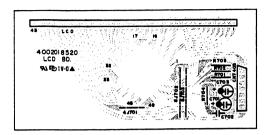


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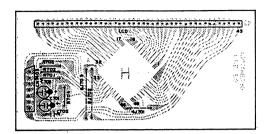


#### LCD BOARD 4002018520

(TOP VIEW)

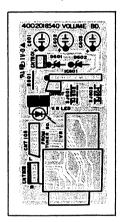


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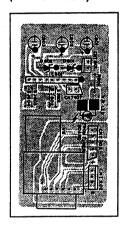


#### **VOLUME BOARD 4002018520**

(TOP VIEW)

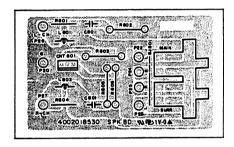


(BOTTOM VIEW)



**SPEAKER BOARD 4002018530** 

(TOP VIEW)



**BIASING BOARD 4002018580** 

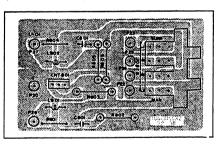
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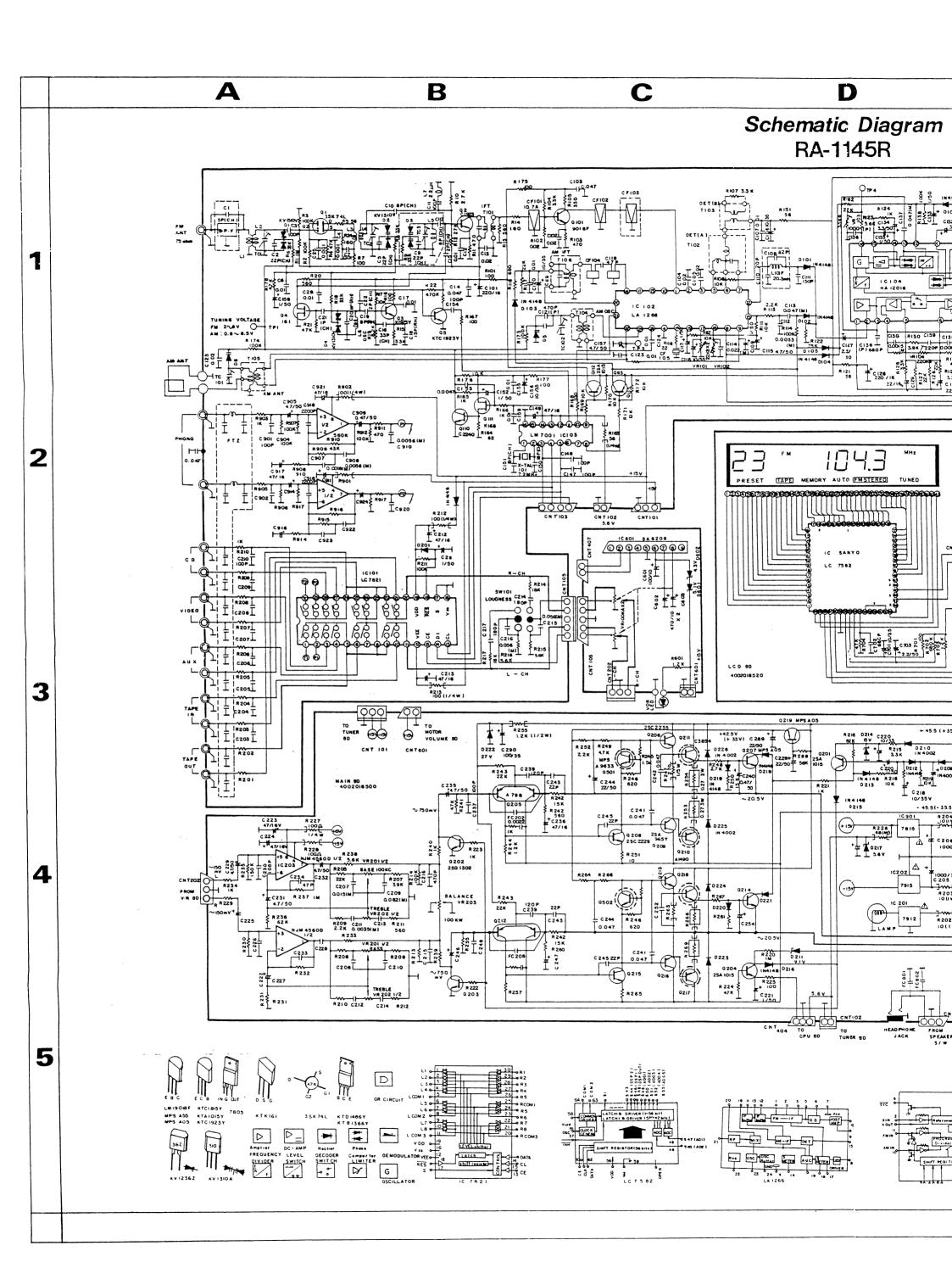


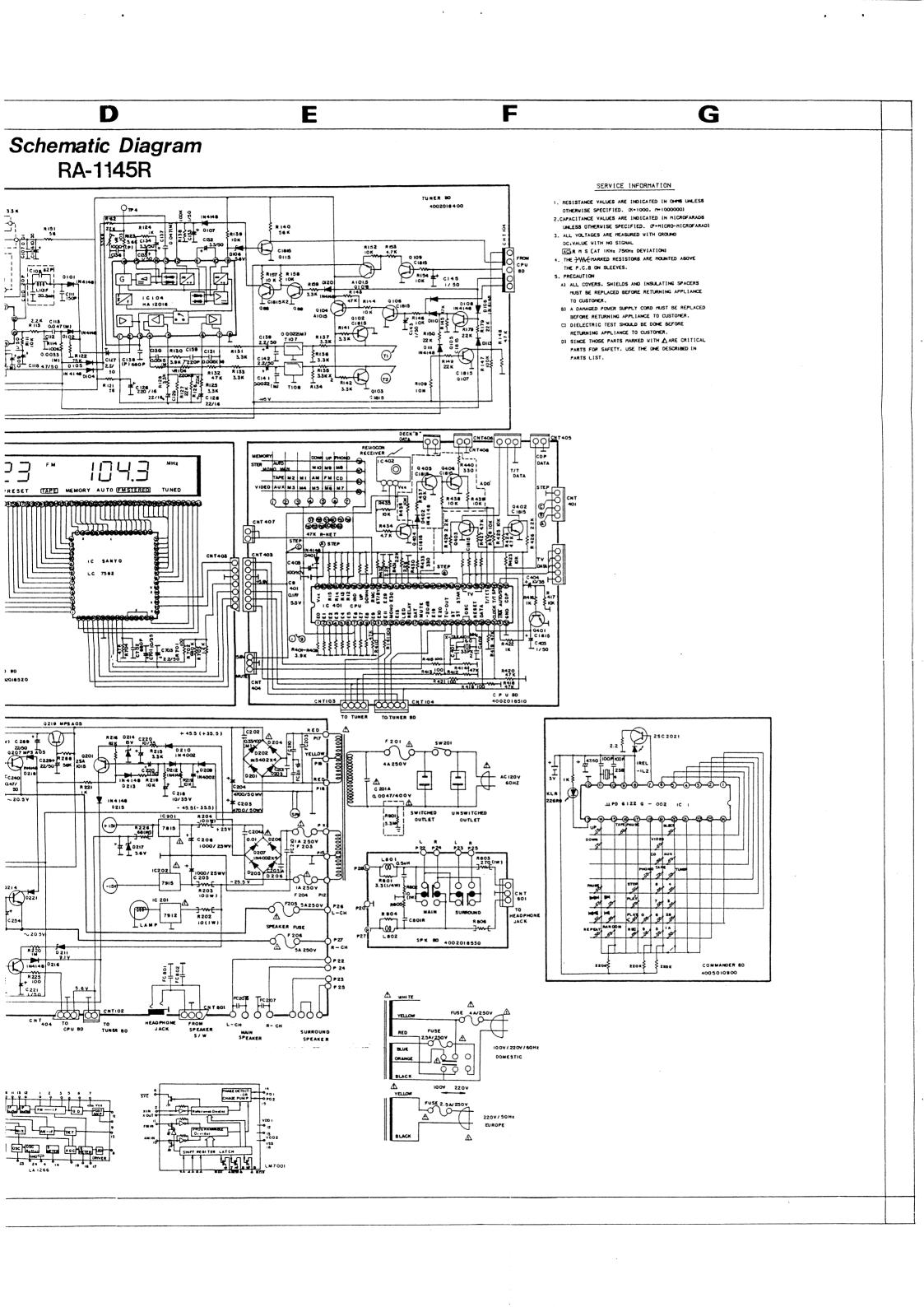
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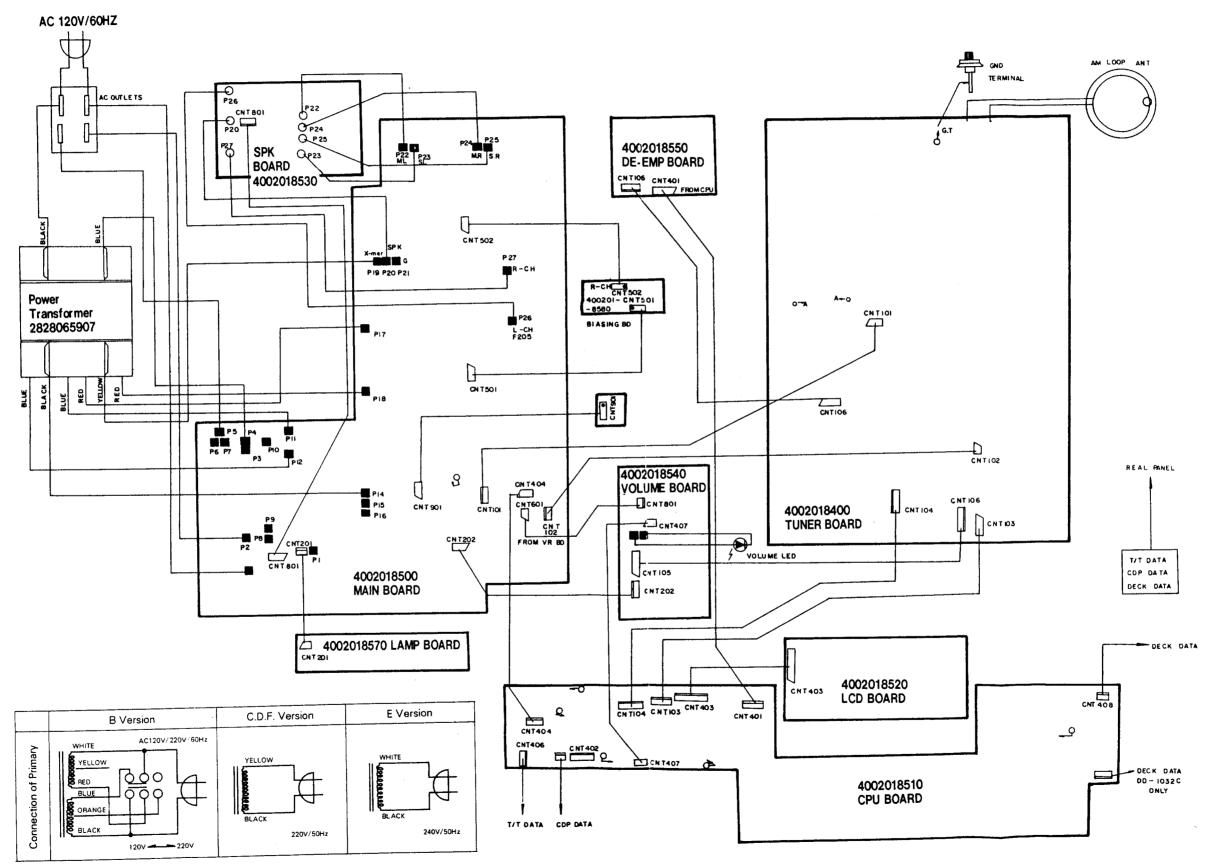
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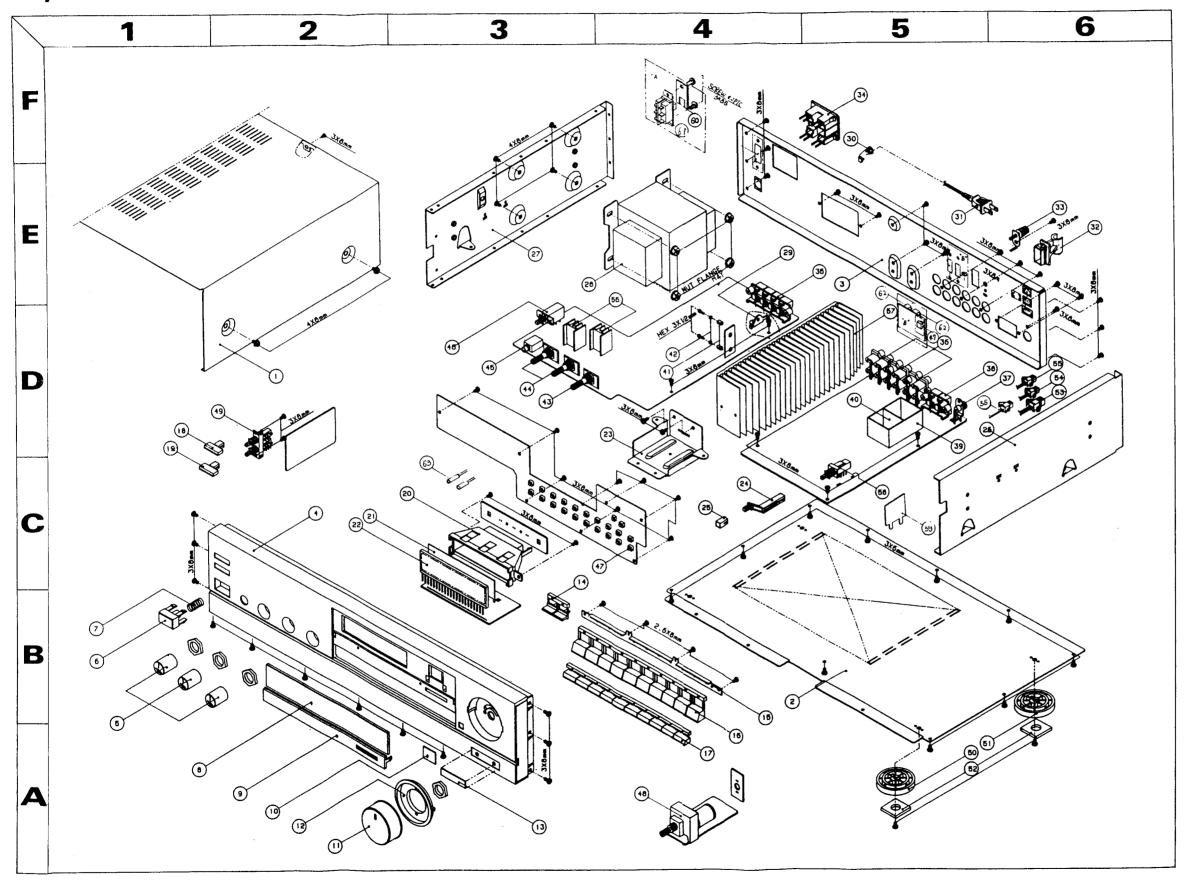




# Point to Point Wiring Diagram



# Exploded View of Cabinet & Chassis



### Electrical Parts List

C241 3579473530 Ceramic 0.047 <sub>p</sub> F 50V 1C	Ref. No	Part No.	(	Description		Position	Remark	Ref. No	Part No.	Description	Position	Remark
**Connectors**   Main	Board	4002	018500									
2011   2012   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014   2014	• Capacito	ors								Electric 47 <sub>µ</sub> F 35\	/ 2B	
2022   369534120   Mylar   0.36pf   100V   2C   CNT201   445007950   Ass y 3P 430mm   1D	C201	3609334120	Mylar	0.33 <sub>#</sub> F	100V	2B			· · · · · · · · · · · · · · · · · · ·			T
2006   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015   2015		3609334120										
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200   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201   201					25V							
23798212120   Mylar   0.082,												
STREATION   Myler   0.0036,												
237382120												
2013   387931210   Mylar   0.018_pf   100V   2D     100   2D     2D     2D   2D   2D   2D   2												
213   3679183120   Mylar   0.018µF   100V   2D   214   3679183120   Mylar   0.018µF   100V   2D   215   3579471130   Caramic   470µF   50V   1D   0.020   ∆ 208100105   1N5402   28   217   3478210051   Bettric   10µF   35V   2C   D233   ∆ 285100105   1N5402   28   218   3478210051   Bettric   10µF   35V   2C   D235   ∆ 285100105   1N5402   22   219   3478210051   Bettric   10µF   35V   2C   D235   ∆ 285100105   1N5402   22   220   3478210971   Bettric   1µF   50V   1C   D207   ∆ 285105100   1N4002   3C   221   3478210971   Bettric   1µF   50V   1C   D207   ∆ 285105100   1N4002   3C   222   3478210121   Bettric   1µF   50V   1C   D207   ∆ 285105100   1N4002   2C   223   347821031   Bettric   47µF   50V   1D   D208   ∆ 285105100   1N4002   2C   224   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4002   2C   225   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4002   2C   226   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4002   2C   227   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4002   2C   228   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4002   2C   229   347824731   Bettric   47µF   50V   2D   D211   ∆ 2858265101   1N4148   2C   220   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   221   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   222   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 2858265101   1N4148   1C   223   347824731   Bettric   47µF   50V   2D   D214   ∆ 28582651												
C214   3679183120   Myfar   0.0196F   100V   2D   10D   2D   2D   2D   2D   2D   2D   2D								CN1301	4420303710	riug 3P	20	
C216   3579471130   Ceramic   470pf   50V   1D   D202								Diodes				
C216   3579471130   Ceramic   470pf   50V   1D   D212								D201 A	2059100105	11/5402	30	T
2271   3479210061   Electric   10yF   35V   2C   2D205							1					
C218         3479210061         Electric         10pF         35V         2C         D204         △ 2088100100         1N5402         2C         2C         D205         △ 2088106100         1N4002         3C         C         C         C         D205         △ 2088106100         1N4002         3C         C         C         C         D205         △ 2088106100         1N4002         3C         C         C         D205         △ 2088106100         1N4002         3C         C         C         D207         △ 2088106100         1N4002         2C         C         D207         △ 2088106100         1N4002         A2088106100         N4002         A2088106100<												1
229   347921061   Bectric   1pF   50V   1C   D206												
C220   3479210971   Electric   1µF   50V   1C   1D   1D   1D   1D   1D   1D   1D							j					
C221   3479240791   Electric   100 pF   10V   10   10   100 pF   10V   10   10   100 pF   10V   10   100												
C222         34792(1021)         Bectric         100µF         10V         1D         D208 A.         2068106100         1144002         2 C         C           C223         3479247931         Bectric         4.7µF         16V         2D         D208 A.         2068106100         1144002         2 C           C226         3479247931         Bectric         4.7µF         50V         1D         D211 A.         208806101         1144002         2 C           C226         3479247931         Bectric         4.7µF         50V         1D         D211 A.         208806101         114402         2 C           C228         3479247931         Bectric         4.7µF         50V         2D         D214 A.         208806101         1144148         2 C           C229         3479247931         Bectric         4.7µF         50V         2D         D215 A.         208806101         1144148         1 C           C230         357910130         Ceramic         100pF         50V         1D         D215 A.         208806101         1144148         1 C           C231         3479247971         Bectric         4.7µF         50V         1D         D217 A.         208806101         1144148	C221											
C224         3479247031         Bectric         4.7µF         16V         2D         D209         D210         Δ         2088106100         11M4002         2C         CC         CC25         3479247971         Bectric         4.7µF         16V         2D         D210         Δ         2088106100         11M4002         2C         CC         CC         CC26         3579101130         Cearmic         100pF         50V         1D         D211 Δ         208806101         11M4148         2C         CC         CC         CC28         3479247971         Bectric         4.7µF         50V         D         D213 Δ         208806101         11M4148         2C         CC         CC230         3579101130         Ceramic         100pF         50V         D         D         D215 Δ         208806101         11M4148         1C         CC         CC230         3579101130         Ceramic         100pF         50V         D         D         D216 Δ         208806101         11M4148         1C         CC         CC233         3579470130         Ceramic         47µF         50V         D         D         D216 Δ         208806101         11M4148         1C         C         CC233         3579470130         Ceramic         47µF <td>C222</td> <td>3479210121</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td>1</td>	C222	3479210121					1					1
C225   347324797    Electric   47µF   50V   1D   D211 \( \to \)   2085899101   D251V   Zener   2C   C2C   347324797    Electric   47µF   50V   2D   D211 \( \to \)   2085899101   D211 \( \to \)   2085899101   D251V   Zener   2C   C2C   347324797    Electric   47µF   50V   2D   D214 \( \to \)   2085899101   D215V   Zener   2C   C2C   C2C   347324797    Electric   47µF   50V   D1   D215V   Zener   2C   C2C   C2C   347324797    Electric   47µF   50V   D1   D215V   Zener   2C   C2C	C223	3479247031	Electric				1	D209 🕰	2058106100			
C226   3479247971   Electric   47µF   50V   1D   D211 Δ   26896910   D23 IV Zener   2C		3479247031	Electric	4.7µF	16V			D210 🛆	2058106100	1N4002		
C227         3479247971         Electric         4.7μF         50V         2D         D213 △         2088306101         1N4148         2C           C228         3479247971         Electric         4.7μF         50V         2D         D215 △         2088306101         1N4148         1C           C230         3579101130         Ceramic         100pF         50V         1D         D216 △         2088306101         1N4148         1C           C231         3479247971         Electric         4.7μF         50V         1D         D216 △         2088306101         1N4148         1C           C232         3479247971         Electric         4.7μF         50V         1D         D218 △         2088306101         1N4148         1C           C233         3579470130         Ceramic         47pF         50V         1D         D220 △         2083306101         1N4148         1A           C236         3479247971         Electric         4.7μF         50V         2C         D221 △         2088306101         1N4148         1A           C236         3479247971         Electric         4.7μF         50V         2C         D221 △         2088306101         1N4148         1A      <			Electric	47µF	50V	10	1 1					
C228         3479247971         Electric         4.7μF         50V         2D         D214 △         2058599109         DZ15V         Zener         2C           C230         3579347971         Electric         4.7μF         50V         1D         D215 △         2058306101         1M4148         1C           C231         3479247971         Electric         4.7μF         50V         1D         D216 △         2058306101         1M4148         1C           C232         3479247971         Electric         4.7μF         50V         1D         D218 △         2058306101         1M4148         1C           C233         3579470130         Ceramic         47pF         50V         1D         D229 △         2058306101         1M4148         1C           C236         3479247971         Electric         4.7μF         50V         2C         D221 △         2058306101         1M4148         1A           C236         3479247031         Electric         4.7μF         50V         2C         D2224 △         2058306101         1M4148         1A           C237         357921130         Ceramic         100pF         50V         2C         D2224 △         2058106100         1M4002				. 100pF	50V Î	1D			2058306101	1N4148	2C	
C239 3479247971 Electric 47, F 50V 1D D215 △ 2058306101 1N4148 1C C C C C C C C C C C C C C C C C C C							1			1N4148	2C	
C230         3579101130         Ceramic         100pF         50V         1D         D216 △         2058306101         1N4148         1C           C231         3479247971         Electric         4.7µF         50V         1D         D217 △         2058599104         D25.6 V Zener         1D           C232         3479247971         Electric         4.7µF         50V         1D         D218 △         2088306101         1N4148         1C           C233         3579470130         Ceramic         47pF         50V         1D         D220 △         2068306101         1N4148         1A           C236         3479247971         Electric         4.7µF         50V         2C         D221 △         2058306101         1N4148         1A           C236         3479247031         Electric         4.7µF         50V         2C         D222 △         2058599115         DZZ7V Zener         2B           C237         357917130         Ceramic         100pF         50V         2C         D222 △         2058106100         1N4002         1A           C238         357927130         Ceramic         120pF         50V         1C         D226 △         2058106100         1N4002         1C <td></td> <td>ł</td>												ł
C231         3479247971         Electric         4.7μF         50V         1D         D217 Δ         20589599104         D25.6V Zener         1D           C232         3479247971         Electric         4.7μF         50V         1D         D218 Δ         2058306101         1N4148         1C           C233         3579470130         Ceramic         47pF         50V         1D         D229 Δ         2058306101         1N4148         1A           C236         3479247971         Electric         4.7μF         50V         2C         D222 Δ         2058306101         1N4148         1A           C236         3479247931         Electric         4.7μF         50V         2C         D222 Δ         2058306101         1N4148         1A           C236         3479247931         Electric         4.7μF         50V         2C         D222 Δ         2058306101         1N4148         1A           C238         357921130         Ceramic         270pF         50V         2C         D224 Δ         2058106100         1N4002         1A           C240         3479247871         Electric         0.47μF         50V         1C         D226 Δ         2058106100         1N4002         1C <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td>												
C222 3479247971 Electric 4.7µF 50V 1D D218 △ 2088306101 1N4148 1C C C C C C C C C C C C C C C C C C C												
C233         3579470130         Ceramic         47pF         50V         1D         D219 △         2088306101         1N4148         1C           C234         3579470130         Ceramic         47pF         50V         1D         D220 △         2088306101         1N4148         1A           C235         3479247971         Blectric         47pF         50V         2C         D221 △         2088306101         1N4148         1A           C236         3479247031         Blectric         47pF         50V         2C         D222 △         2088096101         1N4148         1A           C238         357917130         Ceramic         100pF         50V         2C         D222 △         2088106100         1N4002         1A           C239         357917130         Ceramic         120pF         50V         2C         D225 △         2058106100         1N4002         1A           C240         3479247871         Electric         0.47pF         50V         1C         D225 △         2058106100         1N4002         1C           C241         3579473530         Ceramic         0.047pF         50V         1C         F201 △         5508212831         NB 31.8mm         4A.250Vac <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>												
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$							i					
C235   3479247971   Electric   4.7 <sub>8</sub> F   50V   2C   D221												
C236   3479247031   Electric   47µF   50V   2C   D222 △ 205806100   N4002   1A												
C237         3579101130         Ceramic         100pF         50V         2C         D223 Δ         2088106100         1N4002         1A           C239         3579271130         Ceramic         120pF         50V         2C         D224 Δ         2088106100         1N4002         1A           C240         3479247871         Electric         0.47μF         50V         1C         D226 Δ         2088106100         1N4002         1C           C241         3579473530         Ceramic         0.047μF         50V         1C         Pruses           C244         347922720130         Ceramic         22μF         50V         1C         F201 Δ         5508212930         NB 31.8mm         4A 250Vec         3C         A           C244         347922720130         Ceramic         22μF         50V         1C         F201 Δ         5508212931         NB 31.8mm         4A 250Vec         3C         A           C245         3579220130         Ceramic         22μF         50V         1B         Δ         5508212931         NB 31.8mm         4A 250Vec         3C         A           C247         3479247971         Electric         47μF         50V         2A         F202 Δ         55082												
C239   3579271130   Ceramic   120pF   50V   2C   D224 △ 2058106100   1N4002   1A							i		1			
C239         3579121130         Ceramic         120pF         50V         2C         D225 Δ         2058106100         1N4002         1C           C240         3479247871         Electric         0.47μF         50V         1C         D225 Δ         2058106100         1N4002         1C           C241         3579473530         Ceramic         0.047μF         50V         1C         Fuses         Fuses           C243         357920130         Ceramic         22pF         50V         1C         Footses         Footses         3C         Domestic           C245         357920130         Ceramic         22pF         50V         1C         Footses         Footses         3C         A         A           C246         3479247971         Electric         4.7μF         50V         2A         Footses         Footses         3C         B.C.D.E.F         B.C.D.E.F         G.D.D.E.F         G.D.E.F         G.D.E.F         G.D.E.F												
C240         3479247871         Electric         0.47μF         50V         1C         D226 Δ         2058106100         1N4002         1C         1C         1C         1C         2437947873630         1C												ł
C242 3579473530 Ceramic 0.047 <sub>µ</sub> F 50V 1C C242 3579220130 Ceramic 22 <sub>µ</sub> F 50V 1C C243 3579220130 Ceramic 22 <sub>µ</sub> F 50V 1C C244 3479222071 Electric 22 <sub>µ</sub> F 50V 1C C245 3579220130 Ceramic 22 <sub>µ</sub> F 50V 1C C245 3579220130 Ceramic 22 <sub>µ</sub> F 50V 1B	C240											
C242 3579473530 Ceramic 0.047 <sub>p</sub> F 50V 1C F201	C241		Ceramic					-				L
C243         35792/20130         Ceramic         22pF         50V         1C         F201 △         5508212930         NB 31.8mm         4A 250Vac         3C         Domestic           C245         3479222071         Electric         22pF         50V         1C         △         5508212931         NB 31.8mm         4A 250Vac         3C         A           C246         3479247971         Electric         4.7µF         50V         2A         F202 △         5508212831         NB 31.8mm         2.5A 250Vac         3C         B.C.D.E.F           C247         3479247971         Electric         47µF         50V         2A         F202 △         5508212831         NB 31.8mm         2.5A 250Vac         3C         B.C.D.E.F           C248         3579101130         Ceramic         100pF         50V         2A         F203 △         5508212303         NB 31.8mm         1A 250Vac         3C         Domestic           C250         3579121130         Ceramic         120pF         50V         1A         F204 △         5508212030         NB 31.8mm         1A 250Vac         3C         Domestic           C251         3579473530         Ceramic         0.047µF         50V         1A         F204 △         56	C242		Ceramic					• ruses				
C244         34792220713         Electric         22µF         50V         1C         △         550821231         NB 31.8mm         4A 250Vac         3C         A           C246         3479247971         Electric         47µF         50V         2A         F202 △         5608212331         NB 31.8mm         2.5A 250Vac         3C         B, C.D.E, F           C247         3479247031         Electric         47µF         50V         2A         F202 △         5608212231         NB 31.8mm         2.5A 250Vac         3C         Domestic           C248         3579121130         Ceramic         100pF         50V         2A         F203 △         56082122031         NB 31.8mm         1A 250Vac         3C         Domestic           C250         3579121130         Ceramic         120pF         50V         1A         5608212031         NB 31.8mm         1A 250Vac         3C         A           C251         3579473530         Ceramic         0.047µF         50V         1A         F204 △         5608212031         NB 31.8mm         1A 250Vac         3C         A           C253         357920130         Ceramic         0.047µF         50V         1A         F204 △         5608212031         NB 31.8mm<	C243		Ceramic					F201 🛆	5508212930	NB 31.8mm 4A 250Vac	3C	Domestic
C245 35792/20130   Ceramic 22pF 50V 18								Δ.	5508212931			1
C246         3479247971         Electric         4.7μF         50V         2A         F202 Δ         5608212531         NB 31.8mm         2.5A 250Vac         3C         Domestic           C248         3579101130         Ceramic         100pF         50V         2A         F203 Δ         5608212531         NB 31.8mm         1A 250Vac         3C         Domestic           C49         3579271130         Ceramic         120pF         50V         2A         5608212031         NB 31.8mm         1A 250Vac         3C         A           C250         3579121130         Ceramic         120pF         50V         1A         5608212031         NB 31.8mm         1A 250Vac         3C         A           C251         3579473530         Ceramic         0.047μF         50V         1A         5608212030         NB 31.8mm         1A 250Vac         3C         Domestic           C252         3579473530         Ceramic         0.047μF         50V         1A         5608212030         NB 31.8mm         1A 250Vac         3C         Domestic           C253         3579220130         Ceramic         0.047μF         50V         1A         5608212030         NB 31.8mm         1A 250Vac         3C         A      <										NB 20.0mm 2.5A 250Vac		B,C,D,E,F
C249   3479247031   Electric   47 <sub>F</sub> F   50V   2A												
C249         3579271130         Ceramic         270pF         50V         2A         △         5508212031         NB 31.8mm         1A 250Vac         3C         A BC, D, E, F           C250         3579473530         Ceramic         0.047 <sub>x</sub> F         50V         1A         F204 △         5508212031         NB 20.0mm         1A 250Vac         3C         B, C, D, E, F           C252         3579473530         Ceramic         0.047 <sub>x</sub> F         50V         1A         F204 △         5508212031         NB 31.8mm         1A 250Vac         3C         A Domestic           C253         357920130         Ceramic         2.2pF         50V         1A         5508212031         NB 31.8mm         1A 250Vac         3C         A Domestic           C254         3479227871         Electric         0.47 <sub>x</sub> F         50V         1A         F205 △         5508213030         NB 31.8mm         5A 250Vac         1BC         Domestic           C255         3479222071         Electric         22 <sub>x</sub> F         50V         1A         5508213031         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22 <sub>x</sub> F         50V         2A         5508213031         NB 31.8mm <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3C</td><td></td></t<>											3C	
C250         3579121130         Ceramic         120pF         50V         1A         5508320235         NB 20.0mm         1A 250Vac         3C         B,C,D,E,F           C251         3579473530         Ceramic         0.047µF         50V         1A         F204 Δ.         5508212231         NB 31.8mm         1A 250Vac         3C         Domestic           C253         3579220130         Ceramic         22pF         50V         1A         5508212031         NB 31.8mm         1A 250Vac         3C         A           C254         3479227071         Electric         0.47µF         50V         1A         F205 Δ.         5508213030         NB 31.8mm         5A 250Vac         1BC         Domestic           C255         3479222071         Electric         22µF         50V         1A         F205 Δ.         5508213031         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22pF         50V         2A         5508213030         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22pF         50V         2A         5508213030         NB 31.8mm         5A 250Vac         1BC         A <td></td> <td>Domestic</td>												Domestic
C251         3579473530         Ceramic         0.047 <sub>p</sub> F         50V         1A         F204 △         5508212030         NB 31.8mm         1A 250Vac         3C         Domestic           C252         3579473530         Ceramic         0.047 <sub>p</sub> F         50V         1A         5508212031         NB 31.8mm         1A 250Vac         3C         A           C253         3579220130         Ceramic         22pF         50V         1A         5508212031         NB 31.8mm         1A 250Vac         3C         B,C,D,E,F           C254         3479247871         Electric         0.47 <sub>p</sub> F         50V         1A         F205 △         5508213030         NB 31.8mm         5A 250Vac         1BC         Domestic           C255         3479222071         Electric         22 <sub>p</sub> F         50V         1A         5508213030         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22 <sub>p</sub> F         50V         2A         5508213030         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22 <sub>p</sub> F         50V         2A         5508213030         NB 31.8mm         5A 250Vac         1BC         B,C,D,E,F												
C252     3579473530     Ceramic     0.047µF     50V     1A     △     5508212031     NB 31.8mm     1A 250Vac     3C     A       C253     3579220130     Ceramic     22pF     50V     1A     △     5508212031     NB 31.8mm     1A 250Vac     3C     B,C,D,E,F       C254     34792247871     Electric     0.47µF     50V     1A     F205 △     5508213030     NB 31.8mm     5A 250Vac     1BC     Domestic       C255     3479222071     Electric     22µF     50V     1A     5508213030     NB 31.8mm     5A 250Vac     1BC     A       C256     3579220130     Ceramic     22pF     50V     2A     5608213030     NB 31.8mm     5A 250Vac     1BC     B,C,D,E,F       C258     3479222017     Electric     22µF     50V     2A     5608213030     NB 31.8mm     5A 250Vac     1BC     B,C,D,E,F       C259     34792220130     NB 31.8mm     5A 250Vac     1BC     B,C,D,E,F       C250     A     5608213030     NB 31.8mm     5A 250Vac     1AB     Domestic												B,C,D,E,F
C253         3579220130         Ceramic         22pF         50V         1A         5508302035         NB 20.0mm 1A 260Vac         3C         B,C,D,E,F           C254         3479247871         Blectric         0.47µF         50V         1A         F205 △         5908213030         NB 31.8mm         5A 250Vac         1BC         Domestic           C256         3479222071         Blectric         22µF         50V         1A         △         5508213031         NB 31.8mm         5A 250Vac         1BC         A           C256         3579220130         Ceramic         22pF         50V         2A         S5084030303         NB 31.8mm         5A 250Vac         1BC         B,C,D,E,F           C298         2479020071         Financial         F206 △         5508213030         NB 31.8mm         5A 250Vac         1AB         Domestic												
C254     3479247871     Electric     0.47µF     50V     1A     F205 △     5508213030     NB 31.8mm     5A 250Vac     1BC     Domestic       C255     3479222071     Electric     22µF     50V     1A     5508213031     NB 31.8mm     5A 250Vac     1BC     A       C256     3579220130     Ceramic     22µF     50V     2A     5508213030     NB 31.8mm     5A 250Vac     1BC     B,C,D,E,F       C258     2470222071     Florida     5508213030     NB 31.8mm     5A 250Vac     1AB     Domestic       C258     2470222071     Florida     5508213030     NB 31.8mm     5A 250Vac     1AB     Domestic												
C255 3479222071 Electric 22 F 50V 1A 5508213031 NB 31.8mm 5A 250Vac 1BC A 5508403035 NB 20.0mm 5A 250Vac 1BC A 5508403035 NB 20.0mm 5A 250Vac 1BC B,C,D,E,F C258 A 5508403035 NB 20.0mm 5A 250Vac 1BC B,C,D,E,F C258 A 5508403035 NB 20.0mm 5A 250Vac 1AB Domestic	C254											
C256 3579220130 Ceramic 22pF 50V 2A 5508403035 NB 20.0mm 5A 250Vec 18C B,C,D,E,F  F206 \( \Delta \) 5508213030 NB 31.8mm 5A 250Vec 1AB Domestic	C255											
F206 🛆 5508213000 NB 31.8mm 5A 250Vac 1AB Domestic	C256						<u> </u>					
C200 2470222071 Floring 20 5 F01/ 40	{					\ ~ \ \						
A SOURCE IAB A	C288	3479222071	Electric	22#F	50V	1R		1				
				·				-		Under an ZUVVOC	IAD	1^

	<del></del>		Docities	Remark	Ref. No	Part No.	Description		Position	Remark
Ref. No	Part No.	Description	Position	Remark B.C.D.E.F	R523	3059278682	Cement 0.27	3W	1C	
F206 🕰	5508403035	NB 20.0mm 5A 250Vac	IAB	0,0,0,0,	R254	3059278682	Cement 0.27	3W	1C	
• ICs					R255	3009473373	Carbon Film 47k	1/2W 1/5W	2B 2A	Ì
IC201 △	2168609102	MC7912CT, Regulator	3D		R256	3069223970 3069122970	Carbon Film 22k Carbon Film 1.2k	1/5W	1A	İ
1C202 🛆	2168613107	UA7915UC, Regulator	2D		R257 R258	3069152970	Carbon Film 1.5k	1/5W	1A	
iC203 △	2168611100	NJM4560D, Dual OP Amp	1D	<u> </u>	R259	3069621970	Carbon Film 620	1/5W	1A	
Resistors	i		-		R260	3069561970	Carbon Film 560	1/5W	1A 1A	
R201	3039330472	Metal Oxide 33 1W	3C		R261 R262	3069153970 3069153970	Carbon Film 15k Carbon Film 15k	1/5W 1/5W	1A	
R202 🕰	3039100472	Metal Oxide 10 1W	3C		R263	3009271973	Carbon Film 270	1/5W	1A	
R203 △	3039100472	Metal Oxide 10 1W	3C	1	R264	3069222970	Carbon Film 2.2k	1/5W	1B	ļ ¦
R204 △	3039100472	Metal Oxide 10 1W Carbon Film 22k 1/5W	2C 2D		R265	3069100970	Carbon Film 10	1/5W 1/5W	1B 1A	
R205	3069223970 3069223970	Carbon Film 22k 1/5W Carbon Film 22k 1/5W			R266	3069472970	Carbon Film 4.7k Carbon Film 2.7k	1/5W	1A	! '
R206 R207	3069223970	Carbon Film 3.9k 1/5V	20		R267 R268 △	3069272970 3069278682	Cement 0.27	3W	1A	
R208	3069392970	Carbon Film 3.9k 1/5V	2D		R269 △	3059278682	Cement 0.27	3W	1A	
R209	3069222970	Carbon Film 2.2k 1/5V			R288	3069103970	Carbon Film 10k	1/5W	1B	<u> </u>
R210	3069222970	Carbon Film 2.2k 1/5V Carbon Film 560 1/5V		1	• Transist	tors				
R211 R212	3069561970 3069561970	Carbon Film 560 1/5V	1		0201	2208203105	PNP KTA 1015		2C	
R212	3069104970	Carbon Film 100k 1/5V	/ 10	1	0202	2008610102	NPN 2SD 1302		1C	1
R214	3069104970	Carbon Film 100k 1/5k			0203	2008210102	NPN 2SD 1302		1C	1
R215	3069332970	Carbon Film 3.3k 1/5\ Carbon Film 82k 1/5\		1	0204	2208206105			1C 1C	1
R216	3069823970	Carbon Film 82k 1/5 Carbon Film 47 1/5	- 1		0205	2008015700			1C	1
R217 R218	3069103970	Carbon Film 10k 1/5	V 2C		0206	2008609101	1		10	
R219	3069103970	Carbon Film 10k 1/5	V 2C		0208	2008606107	NPN KTC 2229		18	
R220	3069105970	Carbon Film 1M 1/5		1	0209	2028106107			1B	
R221	3069102970			1	0210	202811610			1B 1C	
R222 R223	3069102970 3069102970				0211	202841610			1A	
R224	3069473970	Carbon Film 47k 1/5	N 1C		0212	202840612			1A	1
R225	3069101970	Carbon Film 100 1/5			0214	200860910	1 NPN MPSA05		1A	
R226 ∠			1D W 1D		0215	200860610			1A 1B	
R227 4	1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			0216 0217	202810610			18	1
R229	306962397	7 110101 411100			0218	202841610			1A	
R230	306915497	Carbon Film 150k 1/5	W 1D		0219	200860910			18	
R231	306910297			l	L					
R232	306910597				Tun	er Boa	rd 400201840	00		
R233 R234	306956297 306910297	0 00,000,1,000			• Capa					
R235	306915497	0 00.00	W 1D		<del> </del>		10 Ceramic CH 5oF	50V	1A	
R236	306962397	0 Carbon Film 62k 1/			C1 C2	35295092 35292202		50V	1A	D
R237	306910597	0   00.00	W 10		.     C2	35091011	30 Ceramic 100pF	50V	1A	
R238	306956297		5W 1D 5W 2C		C4	35791025	30 Ceramic 1000p		1A	
R239 R240	306910297 306910297	O Odi Don't mile	5W   1C		C5	35292202		50V F 50V	1A 1A	D
R241	306947397	70 Carbon Film 47k 1/	5W 2C		C6	35791035 35791035			1A	
R242	30695619	02.22	5W 1C 5W 1C	Inext to (		35298092		50V	1A	Except
R242	30691539	0 00.00	5W 1C 5W 1C	liext to (	C9	35292202	10 Ceramic CH 22pF	50V	1A	D
R243 R244	30692239		5W 1C		C10	35298092		50V	1A	D
R245	30691529	70 Carbon Film 1.5k 1.	5W 1C		C11	35091011			1A 1B	
R246	30696219	70 Carbon Film 620 1.	5W 1C	1	C12 C13	35791035 35792035			1A	
R247 .		, ,	5W 1C	Ì	C14	3579473			1B	
R248	30692729	TO CONTRACT CONTRACT	5W 1C		C15	35292093	210 Ceramic CH 2pF	50V	1B	_
R249 R250	30694729 30691539		5W 1C		C15	3529309		50V	1B	D
R250	30691009		5W 1B		C16	3529330			1B 1B	
R252	30692229		/5W 1B		C17	3579103	230 Ceramic 0.01	μr 3UV	18	
		i								

Ref. No	Part No.	De	scription		Position	Remark	Ref. No	Part No.		Description		Position	Remark
C18	3529150110	Ceramic RH	15pF	50V	1B		C156	3479210061	Electric	10µF	35V	1C	
19	3529809110	Ceramic RH	8pF	50V	1B		C157	3479247971	Electric	4.7μF	50V	28	
20	3529809110	Ceramic RH	8pF	50V	18		C158	3479210971	Electric	1 <sub>#</sub> F	50V	18	
:20	3529509110	Ceramic RH	5pF	50V	18	D	C159	3479103530	Ceramic	0.01μF	50V	1C	
21	3529109210	Ceramic CH	1pF	50V	18		C203	3579101130	Ceramic	100pF	50V	3A	
22	3529209210	Ceramic CH	2pF	50V	18		C204	3579101130	Ceramic	100pF	50V	3A	
23	3579103530	Ceramic	0.01 <sub>4</sub> F	50V	18	1	C205	3579101130	Ceramic	100pF	50V	3A	
24	3579103530	Ceramic	0.01µF	50V	1B		C206	3579101130	Ceramic	100pF	50V	3A	
101	3409222131	Electric	220μF	16V	2B	l 1	C207	3579101130	Ceramic	100oF	50V	3A	
102	3579203530			50V	2B	l I	C208	3579101130	Ceramic	100pF	50V	2A	
103	3579473530	Ceramic	0.02µF			1 1	C209	3579101130	Ceramic	100pF	50V	2A	
104	3579203530	Ceramic	0.047μF	50V	2B	( I	C210	3579101130	Ceramic	100pF	50V	2A	
		Ceramic	0.02μF	50V	2B		C211	3479210971	Electric	1μF	50V	3A	
105	3579203530	Ceramic	0.02µF	50V	2B		C212	3479247139	Electric	470 <sub>4</sub> F	16V	2B	1 .
106	3479210061	Electric	10µF	35V	28	l 1	C212	3479247031		- 1			1
107	3579203530	Ceramic	$0.02 \mu F$	50V	28				Electric	47μF	16V	28	
108	3579820130	Ceramic	82pF	50V	2C	D	C214	3509181130	Ceramic	180pF	50V	2C	i
109	3479210971	Electric	1μF	50V	2C		C215	3679563120	Mylar	0.056μF	100V	2C	
110	3579121130	Ceramic	120pF	50V	2C	D	C216	3679563120	Mylar	$0.056 \mu F$	100V	2C	l
111	3579151130	Ceramic	150pF	50V	2C	ا وا	C217	3509181130	Ceramic	180pF	50V	2C	j
112	3679332120	Mylar	0.0033 <sub>µ</sub> F		2C		C901	3579101130	Ceramic	100pF	50V	2A	
113	3679332120	Mylar	0.0033μF		2C		C901	3579680130	Ceramic	68pF	50V	2A	D
114	3679223120	Mylar	0.0030µF	100V	1C		C902	3579101130	Ceramic	100pF	50V	2A	1
115	3479247971	Electric	4.7µF	50V	10		C903	•	Not used				
116	3479210071	Electric	10 <sub>4</sub> F	50V	10		C904	3579101130	Ceramic	100pF	50V	2A	1
117	3479210971	Electric	1μF	50V	1B		C905	3479247971	Electric	4.7 <sub>4</sub> F	50V	2A	
118							C906		Not used	,		-	ļ
119	3579470130	Ceramic	47pF	50V	18		C907	3679182120	Mylar	0.0018 <sub>#</sub> F	100V	2A	Ì
	3479210061	Electric	10μF	35V	1B		C908	3679562120	Mylar	0.0056 <sub>#</sub> F	100V	2A	
120	3579106530	Ceramic	0.01μF	50V	18	l i	C909	3479247871	Electric	0.47 <sub>4</sub> F	50V	2A	1
121	3619471110	Poly	470pF	50V	18		C910	3679562120	Mylar			2B	
122	•	Not used!					C911	3479247031		0.0056 <sub>#</sub> F	100V		l
123	3579103530	Ceramic	0.01 <sub>#</sub> F	50V	28			34/924/031	Electric	47μF	16V	2B	ļ
124	3579103530	Ceramic	0.01 <sub>µ</sub> F	50V	28		C912	202010112	Not used			1	1
125	3579103530	Ceramic	0.01 <sub>µ</sub> F	50V	1B		C913	3579101130	Ceramic	100pF	50V	2A	
126		Not used!	-		İ		C914	3479247971	Electric	4.7μF	50V	2A	
127	3479222971	Electric	2.2µF	50V	3B	l i	C915	•	Not used			1	
128	3479222071	Electric	22µF	50V	3B	1 1	C916	3479247031	Electric	47μF	16V	2A	
129	3479222071	Electric	22 <sub>4</sub> F	50V	38		C917	3479247031	Electric	47μF	16V	2A	ļ
130	3679152120	Mylar	0.0015µ	100V	3B		C918	3579222130	Ceramic	2200pF	50V	2A	
130	3679102120	Mylar	0.001sμ 0.001μF	100V	3B	B,C,D,E,F	C919	3579101130	Ceramic	100pF	50V	2A	l
131	3679152120	Mylar			3B	8,0,0,5,7	C920	3679562120	Mylar	0.0056 <sub>4</sub> F	100V	28	
131	3679102120		0.0015µF			100000	C921	3479247971	Electric	47µF	16V	2B	
		Mylar	0.001 <sub>µ</sub> F	100V	3B	B,C,D,E,F	C922	3679182120	Mylar	0.0018 <sub>#</sub> F	100V	2A	
132	3479233971	Electric	3.3 <sub>µ</sub> F	50V	3C		C923	3679562120	Mylar	0.0016µ7	100V	2A	
133	3479210971	Electric	1μF	50V	3C	( 1	C924	3479247871	Electric	0.47 <sub>#</sub> F	50V	2A	
134	3479233971	Electric	3.3μF	50V	3C		JUE -	5773277071	Lecuic	υ. 47 μι	JUY	1 24	
135	3479210971	Electric	1μF	50V	3C	[ ]	FC101	3579101130	Ceramic	100pF	50V	3A	٥
136	3619102110	Paly	100pF	50V	3C		FC102	3579101130	Ceramic	100pF	50V	-3A	ם
137	3679473120	Mylar	$0.047 \mu F$	100V	3C		FC102						, -
138	3619681110	Poly	680pF	50V	3C	[		3579101130	Ceramic	100pF	50V	3A	D
143	3479210971	Electric	1μF	50V	3C		FC104	3579101130	Ceramic	100pF	50V	3A	D
144	•	Not used!				]	FC105	3579101130	Ceramic	100pF	50V	3A	D
145	3479210971	Electric	1μF	50V	2C		FC106	3579101130	Ceramic	100pF	50V	3A	D
146	•	Not used!	Γ.		1	1 1	FC107	3579101130	Ceramic	100pF	50V	3A	D
147	3579101130	Ceramic	100pF	50V	1C	1	FC108	3579101130	Ceramic	100pF	50V	2A	D
148	3579101130	Ceramic	100pF	50V	10		FC109	3579101130	Ceramic	100pF	50V	2A	D
149	3479247031	Electric		16V		[	FC110	3579101130	Ceramic	100pF	50V	2A	D
150	3529180210		47μF		1C		FC111	3579220130	Ceramic	22pF	50V	2A	D
		Ceramic CH	18pF	50V	10		FC112	3579220130	Ceramic	22pF	50V	2A	Ď
151	3529180210	Ceramic CH	18pF	50V	1C		1			—p.			"
152	3479210971	Electric	tμF	50V	1C		FR101	3579220130	Ceramic	22pF	50V	2A	b
153	3649472120	Ceramic	0.0047μF	50V	1C	1	FR102	3579220130	Ceramic	22pF	50V	2A	٥
154	•	Not used!			1		CF901	3579473530	Ceramic	0.047 <sub>4</sub> F	50V	2A 2A	ם
155	3579103530	Ceramic	0.01 <sub>µ</sub> F	50V	1C		X-TAL101	3908101030	HC-18/U		30 V	1C	ט
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Ref. No	Part No.	Description	Position	Remark	Ref. No	Part No.	Description		Position	Remark
Coils					CF102	3908011011	Ceramic SFE 10.7MS3GH		28	B,C,D,E,F
Li	2648001410	Spring FM ANT	1A		CF103	3908011011	Ceramic SFE 10.7MS3GH	1	28	D
12	2648001410	Spring FM RF(B)	1A	A,B,C,E,F	CF104	3908001380	Ceramic STZ 450F		1C	
L3	2648001290	FM RF(A)	1A	۱۳,۵,۵,۵,۱	CF105	3908001020	BFU 450C 4N	_ }	1C	
L4	2648001280	FM RF(B)	1A	A,B,C,E,F	B.P.F	3938001001	Resonator Ceramic CSB4		1A	
L4	2648001400	Spring FM RF(B)	1A	D		3938001005	Resonator Ceramic PFW	84	1A	D
L5	2648001400	Spring FM RF(B)	1A	D	• ICs					
L6	2638001060	FM OSC	1B			T = := := := := := := := := := := := := :			Г	
L7	2648601400	Inductor 22µH	1A		IC101	2168017132	LC 7821, Switching		2B	1
		,	İ		IC102	2168017128	LA 1266, IF		2B	
TC1	3838001000	Ceramic Trimmer TZ03	1A	1	IC103	2138017112	LM 7001, PLL IC		1C	ļ
TC2	3838001000	Ceramic Trimmer TZ03	1A		1C104	2168411105	HA 12016, FM MPX		3C	
TC3	3838001000	Ceramic Trimmer TZ03	1A	D	IC901	2168220104	NJM 4558D, Dual OP An	np	2A	<u> </u>
T101	2838001030	FMIFT	18	1 1	• Resisto	rs				
T102	2838501110	Quad Det(A)	2B		D1	200010000	Carbon Eilen 184	1 (5)41	14	Τ
T103	2838501210	Quad Det(B) FM TOK	2B		R1	3069105970	Carbon Film 1M	1/5W	1A	
T104	2638201150	AM OSC	2B	[	R2 R3	3069104970 3069104970	Carbon Film 100k Carbon Film 100k	1/5W 1/5W	1A 1A	
T105	2608201120	AM ANT	1B	1	R3   R4	3069104970	Carbon Film 100k	1/5W	I IA	
T106	2848001250	AM IFT	1C	1	R5	3069473970	Carbon Film 4/k	1/5W	1A	
~		l			R6	3069333970	Carbon Film 33k	1/5W	1A	
7J3	2648601010	Inductor 2.2µH	1A	D	R7	3069101970	Carbon Film 100	1/5W	1A	
6J7	2648601010	Inductor 2.2mH	1B	D	R8	3069333970	Carbon Film 33k	1/5W	1A	D
•	2648601470	Inductor 50mH	2A	D next to	R9	3069333970	Carbon Film 33k	1/5W	1A	D
•	2648601470	Inductor 50mH	2A	D EC111.	R10	3069272970	Carbon Film 2.7k	1/5W	1A	10
			20		R10	3069202970	Carbon Film 2k	1/5W	1A	٥
L101F	2648601430	Inductor 20.8mH	2C	D	R11	3069471970	Carbon Film 470	1/5W	1A	
• Connec	ctors				R12	3069273970	Carbon Film 27k	1/5W	1A	
CNT101	4428505710	Plug 3P	2B		R13	3069561970	Carbon Film 560	1/5W	1A	1
CNT101	4428508210	Plug 2P	1C	1	R14	3069181970	Carbon Film 180	1/5W	1A	
CNT102	4428505610	Plug 4P	10	1	R15	3069332970	Carbon Film 3.3k	1/5W	1B	1
CNT103	4428517810	Plug 5P	2C	1	R16	3069101970	Carbon Film 100	1/5W	1B	
CNT105	4358105106	A'ssy 5P	2C	1	R17	3069103970	Carbon Film 10k	1/5W	18	
CNT106	4355029540	A'ssy 4P, 540mm	3C	1	R18	3069333970	Carbon Film 33k	1/5W	1B	
	<u> </u>	1, ", 0.0			R19	3069822970	Carbon Film 8.2k	1/5W	18	
• Diodes					R20	3069561970	Carbon Film 560	1/5W	1B	1
D1	2058819107	Varactor KV1310A	1A,1B		R21	3069473970	Carbon Film 47k	1/5W	1B	
D2	2058819107	Varactor KV1310A	1A,1B	1	R22	3069474970	Carbon Film 470k	1/5W	1B	
D3	2058819107	Varactor KV1310A	1A,1B		R23	3069101970	Carbon Film 100	1/5W	1B	1
D4	2058819107	Varactor KV1310A	1A,1B		R24	3069181970	Carbon Film . 180	1/5W	1A	
	1				R101	3069101970	Carbon Film 100	1/5W	2B	ĺ
D101 🛆	2058306101	1N 4148	2C,1C	1	R102	3069561970		1/5W	2B	
D102 🛆	2058306101	1N 4148	2C,1C	1	R103	3069471970		1/5W	2B	
D103 🛆	2058306101	1N 4148	20,10		R104	3069333970		1/5W	2B	1
D104 🛆		1N 4148	2C,1C		R105	3069331970		1/5W	2B	1
D105 🛆		1N 4148	2C,1C		R107	3069332970		1/5W	2B	
D106 🛆		Zener DZ 5.6	3C		R108	3069103970		1/5W	2B	
D107 🛆		1N 4148	3C	-	R109	3069103970		1/5W	2B	1.
D108 🕰		1N 4148	3C	[	R110	3069103970		1/5W	2C	A
D109 🛆		1N 4148	3C	1	R110	3069473970		1/5W	2C	B,C,D,E
D110 🕰		1N 4148	3C		R111	3069103970		1/5W	2C	
D111 🛆		1N 4148	3C		R112	3069103970		1/5W	1C	
D113 🛆	2058306101	1N 4148	2C		R113	3069222970		1/5W	1C	
				1	R114	3069104970		1/5W	1C	
D120 🛆		1N 4148	3C	1	R115	2000220077	Not used!	5 (E) 61	1,0	i
D201 △	2058306101	1N 4148	3A		R116	3069220970		1/5W	10	
• Filters					R117	3069223970		1/5W	18	
	00000000	D : 000 40 00 100 /	T ==	1.	R118	3069681970		1/5W	1C 3C	[
CF101	3908011001		2B	A	R121	3069560970		1/5W 1/5W	3C 2C	1
	3906011011	Ceramic SFE 10.7MS3GH	26	8,C,O,E,F	1.1	3069562970	1	1/5W	3C	Ì
CF102	3908011001	Ceramic SFE 10.7MA8-A	2B	] A	R123	30033073\(	/ Carbon Film 0.0k	1/244	ا عد ا	1

1							D ( N-	Part No.
	Ref. No	Part No.	Description		Position	Remark	Ref. No	Part No.
	R124	3069102970	Carbon Film 1k	1/5W	3C		R209	3069102970
	R125	3069332970	Carbon Film 3.3k	1/5W	3C		R210	3069102970
	R126	3069223970	Carbon Film 22k	1/5W	3B		R211	3069104970
	R127	3069223970	Carbon Film 22k	1/5W	3B		R212 🛆	3069101970
	R128	3069332970	Carbon Film 3.3k	1/5W	3B		R213 🛆	3069101970
	R129	3069473970	Carbon Film 47k	1/5W	3B	1	R214	3069183970
	R130	3069392970	Carbon Film 3.9k	1/5W	3B	1 !	R215	3069562970
	R131	3069332970	Carbon Film 3.3k	1/5W	3B	1 !	R216	3069562970
	R132	3069473970	Carbon Film 47k	1/5W	3B		R217	3069183970
		3069332970	Carbon Film 3.3k	1/5W	3B	1	İ	
	R133	3069332970	Carbon Film 3.3k	1/5W	3B	i i	R901 △⊾	3009101273
	R134 R135	3069332970	Carbon Film 3.3k	1/5W	3B		R902 △	3009101273
			Carbon Film 3.3k	1/5W	3B	1 1	R903	3069102970
	R136	3069332970	Carbon Film 3.3k	1/5W	3B	1	R904	3069103970
	R137	3069332970		1/5W	3C	1	R905	3069102970
	R138	3069104970		1/5W	3C		R906	3069103970
	R139	3069103970	Carbon Film 10k		3C		R907	3069104970
	R140	3069563970	Carbon Film 56k	1/5W 1/5W	3C	1	R908	3069911970
	R141	3069332970	Carbon Film 3.3k	1/5W	3C	1	R909	3069432970
	R142	3069332970	Carbon Film 3.3k		3C	i l	R910	3069564970
	R143	3069473970		1/5W			R911	3069471970
	R144	3069103970		1/5W	3C	i	R912	3069104970
	R145	3069473970		1/5W	3C	1	R914	3069911970
	R146	3069103970		1/5W	3C	1	R915	306943397
	R147	3069473970		1/5W	2C,3C	ļ	R916	306956497
	R148	3069473970		1/5W	2C,3C	1	R917	306947197
	R149	3069223970		1/5W	2C	1	R917	306910497
	R150	3069223970		1/5W	3C	1	R918	306910497
	R151	3069560970		1/5W	2C	1	l	
	R152	3069103970		1/5W	3C		Semi.R	esistors
	R153	3069472970		1/5W	2C		VR101	3248333332
	R154	3069103970		1/5W	2C	1	VR102	324833332
	R157	3069103970		1/5W	3C	1	VR103	3248333322
	R158	3069103970		1/5W	3C		VR104	324834742
	R159	306933297		1/5W	3C	İ		
	R162	306922397		1/5W	2C	1	• Transis	tors/FETs
	R163 △			1/5W	1C	ł	Q1	201821310
	R164	306975097		1/5W	1C	1	02	200840610
	R165	306910297		1/5W	1C	1	03	200840610
	R166	306910297		1/5W	1C		Q4	20182061
	R167	306910197		1/5W	1C		0.5	200840610
	R168	306910197		1/5W	1C		0.88	22086061
	R169	306910397		1/5W	1C	1	0.89	220860610
	R176	306910397		1/5W	1C			
	R171	306910397		1/5W	1C	1	Q101	20084091
	R172	306910397		1/5W	1C	1	0102	22086061
	R173	306910397		1/5W	1B		0103	22086061
	R174	306910397		1/5W		1	0104	22082061
	R175	306910197		1/5W			0105	22086061
	R176	306910397		1/5W		1	0106	22086061
	R177	306910197		1/5W		1	0107	22086061
	R178	306947297		1/5W			0108	22082061
	R179	306922397	70 Carbon Film 22k	1/5W	2C	1	0109	22086061
							Q110	22086061
	R201	306910297		1/5W			0111	20182111
	R202	30691029		1/5W			0112	22082061
	R203	30691029		1/5W			0113	22082061
	R204	30691029		1/5W			1 —	I David
	R205	30691029		1/5W			HCPU	J Boar
	R206	30691029		1/5W			• Capa	ritors
	R207	30691029		1/5W			1 <u>—</u>	
	R208	30691029	70 Carbon Film 1k	1/5W	/   2A		C401	35793301
	1	1	1		1	1	11	1

Г	Ref. No	Part No.	Description		Position	Remark	
F	209	3069102970	Carbon Film 1k	1/5W	2A		
	210	3069102970	Carbon Film 1k	1/5W	2A		
	1211	3069104970	Carbon Film 100k	1/5W	3A		
	3212 △	3069101970	Carbon Film 100	1/5W	3B	1	
	1213 A	3069101970	Carbon Film 100	1/5W	38		
	3214	3069183970	Carbon Film 18k	1/5W	2C		
11.5	3215	3069562970	Carbon Film 5.6k	1/5W	2C		
	R216	3069562970	Carbon Film 5.6k	1/5W	2C		
	R217	3069183970	Carbon Film 18k	1/5W	2C		
1	11217	0000100010	00.00				
1	R901 △	3009101273	Carbon Film 100	1/5W	2C		
	R902 △	3009101273	Carbon Film 100	1/5W	2A	1	
	R903	3069102970	Carbon Film 1k	1/5W	2A		
	R904	3069103970	Carbon Film 10k	1/5W	2A		ı
	R905	3069102970	Carbon Film 1k	1/5W	2A		
İ	R906	3069103970	Carbon Film 10k	1/5W	2A		l
1	R907	3069104970	Carbon Film 100k	1/5W	2A		1
-	R908	3069911970	Carbon Film 910	1/5W	2A		ļ
-	R909	3069432970	Carbon Film 4.3k	1/5W	2A	1	-
i	R910	3069564970	Carbon Film 560k	1/5W	2A	i	ĺ
1	R911	3069471970	Carbon Film 470	1/5W	2B	1	
1	R912	3069104970	Carbon Film 100k	1/5W	2A	1	1
1	R914	3069911970	Carbon Film 910	1/5W	2A		
H		3069433970		1/5W	2A		-
ı	R915	3069564970		1/5W	2A	1	İ
ll	R916	3069471970		1/5W	28	next to C913	ı
H	R917	3069104970		1/5W	2A	I III III III III III III III III III	1
H	R917	3069104970		1/5W	2A	1	ļ
Ш	R918	3003104370	Calborrain rook	- 1/311			4
	• Semi.R	esistors					4
U	VR101	32483333320			1C		
1	VR102	32483333320			1C		1
ļ	VR103	32483333220			3C		
١	VR104	3248347420	NVR 83 HOz 470KB		3B		4
	• Transis	tors/FETs					╛
1	Q1	2018213100	FET 3SK74L		1A		١
ı	02	2008406103	NPN KTC 1923Y		1A	1	l
1	03	200840610	NPN KTC 1923Y		1B		Ì
1	Q4	201820611	KTK 161Y		1B		ļ
ŀ	Q5	200840610	NPN KTC 1923Y		1B		
1	088	220860610			3C	1	
ł	0.89	220860610			3C		
					1		
1	Q101	200840910			28		
1	0102	220860610			3B	1	
1	Q103	220860610			3B	1	
	Q104	220820610			3C	1	
1	Q105	220860610			3C	1	
1	0106	220860610			3C		
	Q107	220860610			3C		
1	0108	220820610			3C		
1	0109	220860610			2C		
1	Q110	220860610			10	1	
١	Q111	201821110			1C		
ļ	Q112	220820610			1C		
1	Q113	220820610	<u> </u>		10	l	
	CPI	J Board	400201851	0			
	• Capa	citors					
	C401	357933013	Ceramic 33pF	50V	A		_

Def At .	Dord Mr.	Decaded		Position	Remark
Ref. No	Part No.	Descripti			nemark
C402	3579330130	Ceramic 33pF	50V 50V	A	
C403 ) C404	3479210971 3479210061	Electric 1µF Electric 10µF	35V	Â	
C405	3479210121	Electric 100µF		B	
<b>4.00</b>	0170210121	Licetine 700p.		_	l
CB401	3439110412	CAP AC206G 104Z		В	ĺ
X-TAL401	3908101150	X-TAL 6MHz		Α	
• Connect	ors				
CNT103	4355029540	Ass'y 4P 540mm		Α	
CNT104	4358505300	Ass'y GS G-J 05 30	ס	A	
		,		1	1.
CNT401	4358104403	Ass'y 4P 400mm		В	В
CNT402	4358205502	Ass'y 5P 500mm	440-	A	Domestic
CNT403	4358107140	Ass'y 5395-07-140D	L 140mm	В	
CNT404	4358103202	Ass'y 3P 200mm		A	
CNT405 CNT406	4358202700 4358203700	Ass'y 2P Ass'y 3P		Â	
CNT406	4358203700	Ass'y 2P		Â	
CNT407	4358102350	Ass'y 2P		Ĝ	
• Diodes	1	L		<u> </u>	J
D401 🛆	2058306101	1N 4148		В	T
D402 🛆	2058306101	1N 4148		D	
• ICs		<u> </u>			
IC401	2138399102	CPU MB88514BP-1	069	Α	
IC402	2138099103	JMM-001, Remoci	n Sensor	D	
• Resisto	ors				
R401	3069392970	Carbon Film 3.9	1/5W	В	
R402	3069392970	Carbon Film 3.9		В	
R403	3069392970	Carbon Film 3.9		В	1
R404	3069392970	Carbon Film 3.9i		В	
R405	3069392970	Carbon Film 3.9i		8 B	1
R406	3069392970	Carbon Film 3.9		В	1
R407 R408	3069392970 3069392970	Carbon Film 3.9		B	
R409	3069392970			В	
R410	3069473970			В	
R411	3069101970			Ā	-
R412	3069473970		1/5W	A	ĺ
R413	3069101970			A	
R414	3069473970			A.	
R415	3069101970			A	}
R416	3069102970		1/5W	A	i
R417	3069103970			A	
R418 R419	3069473970			Â	
R419	3069473970			B	next to
R420	3069473970			A	CNT103
R421	3069101970			Ä	"
R422	3069102970		1/5W	A	1
R423	3069103970	Carbon Film 10		A	
R424	3069472970			A	
R425	3069103970				
R426	3069222970				1
R427	3069472970				
R428	3069103970			1	
R429 R430	306922297				1
mou	300322237	Carbon min 2.2	. ,,,,,,		

Ref. No	Part No.	Descr	iption		Position	Remark
1431	3069222970	Carbon Film 2.3	2k	1/5W	В	
1432	3069222970	Carbon Film 2.3		1/5W	В	
1433	3069331970	Carbon Film 33	10	1/5W	В	
3434	3069472970	Carbon Film 4.	7k	1/5W	D	
1435	3069103970	Carbon Film 10	)k	1/5W	D	
3436	3069103970	Carbon Film 10	)k	1/5W	ס	Į
R437	3069103970	Carbon Film 10	)k	1/5W	D	i
R438	3069103970		)k	1/5W	D	ļ
R439	3069103970		Ok	1/5W	D	1
R440	3069331970		30	1/5W	0	
			ou Ok		D .	
R441	3069103970	Carbon Film 10	UK	1/5W	٦	
RN-401	3088473174	Network, 12P 4	7k	1/8W	A	1
• Transisto	ors				.,	,
Q401	2208606104	NPN KTC1815Y			Α	
Q402	2208606104	NPN KTC1815Y			A	1
Q403	2208606104	NPN KTC1815Y			A	1
Q404	2208606104	NPN KTC1815Y			D	
Q405	2208606104	NPN KTC1815Y			D	1
Q406	2208606104	NPN KTC1815Y			ם	
LCD	Board	4002018	520			
• Capacit						
C701	3479210061	Electric 1	10μF	35V	T	Τ
C702	3579681230		380pF	50V	i	
	3479210971		λουρι 1μF	50V		
C703	<del></del>	Electric	і дг	JUV	.l	1
• Connec					<del></del>	1
CNT403	4428505410	Plug 7P				<u> </u>
• Resisto	rs					
R701	3069101970	Carbon Film	100	1/5W	ļ	1
R702	3069681970	Carbon Film	680	1/5W	1	i
R703	3069122970		1.2k	1/5W		-
R704	3069473970		47k	1/5W		1
Rea	ulator I	C Board	400	2018	590	· <del></del>
IC901	2168601105	IC, GD 7815			T	T
CNT901	4358103166	Connector Ass	y MO-52	64-03-16		
Volu	me Bo	ard 4002	20185	40		
• Capaci	tors	-			,	
C <del>6</del> 01	3479210121		100μF	10V		
C602	3409247121		470µF	10V		1
C603	3409247121	Electric	470μF	10V		
• Conne	ctors	,				<del>-,</del>
CNT105	4428505710					
CNT202	4355030740					i
CNT407	4428508210					
CNT601	4358102264		54-0310			L.,
• Diode:	3					
D601 △						
	2058599100	Zener DZ 3.3V	1			
D602 △						
• IC						

Ref. No	Part No.	De	scription		Position	Remark
• Resistor						
R601 △⊾	3069122970	Carbon Film	1.2k	1/5W		
Spea	ker Bo	ard 40	02018	530		
• Capacito	ır					
C801	3679473120	Mylar	0.047μF	100V		
• Coils						
L801 L802	2648001010	Inductor 0.5			1	
• Connect	2648001010	Inductor 0.5 <sub>p</sub>	H		l	
CNT801	4358103163	Ann's 3D MC	E20E 02 1		1	
		Ass'y 3P MC	2392-03-1	•	l	L
• Resistor				4/84	Т	1
	3009339273		3.3	1/4W	1	l
	3039100472 3039271472			1W 1W	1	
					1	
110U4 ZZ	3009339273 3039100472	Metal Plim	3.3 10	1/4W	1	1
TOUCH A	30391004/2	Metal Oxide	10	1W		1
R806 △	3039271472	metal Uxide	2/0	. 1W	1	<u> </u>
Biasi	ng Boa	rd 400	20185	580		
• Connec	tors					
CNT501	4358103105	Ass'y MO 52	64-0310			
CNT502	4358103105	Ass'y MO 52			<u></u>	
• Transist	ors					
Q501	2008609107	MPS 9633C				
0502	2008609107	MPS 9633C				[
	mphas	1	4 400	12019	EEU (19)	Carra Oal
• Capacit		is Duai	u +00	2010	330 (B	Group Oil
C101	3579471130	Ceramic	470oF	50V	В	
C102	3579471130	Ceramic	470pF	50V	B	
• Connec		Journe	770pi		1,	J
CNT106	4358104203	Ass'y 4P			В	Γ
CNT401	4428505610	Plug 4P			B	
• Resistor	L		· <del></del>			l
		la : 5	4001	4 (FIA)	Τ.	
R101 R102	3069104970 3069222970	Carbon Film Carbon Film	100k 2.2k	1/5W 1/5W	B   B	l
	mande	L				<u> </u>
		DUdit	400	טוטנ	700	
• Capacit	3409247022	Electric Afss	47E	10WV	т	<del></del>
C802						
	3509101130	Ceramic	100pF	50V	1	
C803	3509101130	Ceramic	100pF	50V		
CS801	3938001001	Resonator C	eramic CSI	3 45		
• Diodes						
LD801	2408001100					
LD802	2308060105	LED, KLR 2	26E RD			l
• IC	1					
IC801	2138013122	UPD 6122G-	002			
						L

Ref. No	Part No.	Description		Position	Remark
Resistor	2		· · ·		
1801	3009102972	Carbon Film 1k	1/5W		
1802 1803	3009229972 3009224972	Carbon Film 2.2 Carbon Film 220k	1/5W 1/5W		
804 805	3009224972 3009224972	Carbon Film 220k	1/5W 1/5W		
Transist	1	Cerbon rum 220k	17.544	<u> </u>	
2801	2008622100	2SC 2021R/S			
Miscella	aneous Parts				
:	2828065907 2828066801 2828066901 2828067001	Power Transformer Power Transformer Power Transformer Power Transformer			A B C,D,F
•	2828067101	Power Transformer			Domestic

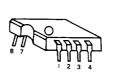
#### Mechanical Parts List

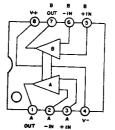
No.	Parts No.	Description	Q'ty	Position	Remark
1	046122018211	Cover-Top, Black	1	D2	
2	6122413910	Cover-Bottom	1	B4	
3	046102025111	Chassis-Back, Black	1	E5	Domestic
Ιİ	046102025121	Chassis-Back, Black	1	E5	Α
1 1	046102025131	Chassis-Back, Black	1	E5	B
	046102025141	Chassis-Back, Black	1	E5	l c
1 1	046102025151	Chassis-Back, Black	1	E5	D
	046102025161	Chassis-Back, Black	1	E5	E
	046102025171	Chassis-Back, Black	1 1	E5	F
4	048501012111	Panel-Front, Black	i	C2	1
5	8543015810	Knob Rotary (T.T.B)	1 i	B1	
6	048545048211	Button-Power, Black	li	B1	
7	6555004380	Button Spring	1	B1	
8	048553009311	Window LCD	;	A1	
9	048583002511	Cover-Front	l i	A2	1
					ì
10	8555018610	Window Remote	1 1	A2	
11	8543019510	Knob-Rotary, Main	1	A2	_
	048643003611	Knob-Rotary, Main	1	A2	D
12	8523009210	Ring-Decoration	1	A2	
13	048535019011	Name Badge	1	A3	
14	8543019610	Button Tact	1	l c3	1
15	6503013410	Knob Bracket	1	84	
16	8502000212	Button Tact, Long	1	A4	
17	8502000311	Button Tact, Short	1	A4	
18	048543019411	Knob Push, Main Speaker	Ιi	D1	1
19	048543019412	Knob Push, SUR.Speaker	1 1	Di	
20	6062100410	LCD Holder	1	C3	
21	048555024111	Filter LCD, Orange	1	82	1
22				C2	1
	2338001136	LCD Display	1!		1
23	6503012310	Bracket Heatsink	1 !	D4	
24	6303001310	Shaft Knob, Long	1	C4	1
25	8545049310	Knob Push, Loudness	1	C4	
26	6122618320	Frame Side, Right	1	D5	
27	6122618310	Frame Side, Left	1	E3	
28		Power Transformer	1	E3	j
29	6505088410	Bracket PCB (B)	1	E4	
30	6518000710	Stopper-AC Cord	1	F5	A,B
	6518000111	Stopper-AC Cord	1	F5	C,D,F
	6513000210	Stopper-AC Cord	1	F5	E
	6513000310	Stopper-AC Cord	1	F5	Domestic
31	4308001410	Cord-AC Power, Black	1	E5	A,B
	4308000430	Cord-AC Power, Black	1	E5	C,D,F
	4308000610	Cord-AC Power, Black	1	E5	İΕ
1	4308001610	Cord-AC Power, Black	1	E5	Domestic
32		Holder Antenna	1	E6	
33		Ground Screw, Black	1	E6	1
34		Outlet, 1P×2	1	F5	A,B
1	4448100510	Outlet, 1P×2	11	F5	C,D,F
		Not used!	l i	F5	E
1	4448100410	Outlet, 1P×2	i	F5	I -
35					Domestic
		Speaker Terminal	1	E5	
36	4438103110	RCA Jack	3	D5	1.00
37	4355032110	Connector, FM	1	D5	A,B,Domestic
-	4438301110	Connector, FM	1	D5	C,D,E,F
38		Push Terminal Board, 2P	1	D5	l
39	6163105610	Shield Fence (A)	1	D5	Except D
	6163107110	Shield Fence (A)	1	D5	D
40		Shield Fence (A)	1	D5	Α
1	6125128510	Shield Fence (B)	2	D5	D
1	6163105810	Shield Fence (D)	1	D5	D
1					
1	6165128610	Shield Fence (E)	1	D5	lo

No.	Parts No.	Description	Q'ty	Position	Remark
41	7015003120	Bussing	2	D4	D
42	8319130011	Washer-Spring 63 ZNY	2	D4	
43	3208054410	VR 100KSW, Salance	1	D3	ĺ
44	3208049910	VR 100KC×2, BASS TREBLE	1	D3	į
45	4438003910	Jack Phone	1	D3	1
46	4628044410	Switch-Push, Power	1	D3	1
47	4658002020	Switch Tact	22	C3	B is 23pcs.
48	3208054310	VR Motor, for Remote	1	A4	
49	4628053610	Switch Push, 2 Key	1	D2	
50	046035101421	Foot, Gold	2 2	A5	
51	6035101420	Foot, Black	2	A5	
52	6725002110	Cushion-Foot, Black	4	A5	1
53	4358203700	Ass'y Connector, 3P	1	D6	
54	4358202700	Ass'y Connector, 2P	1	D6	
55	4358202350	Ass'y Connector, 2P	1	D6	1
56	7505201940	Regulator TR Heatsink	2	E4	
57	7503101210	Heatsink Power	1	E4	1
58	4628044010	Switch Push 1 Key, Loudness	1	C5	1
59	6105131810	Shield Fence	1	Ç5	
60	6515000630	Holder Voltage	1	F4	1
61	4618000410	Slide Switch, Vtg.Selector	1	F4	
62	4618000610	De-Emphasis Switch	2	E4	
63	2528203810	Lamp, Amber	2	D3	1

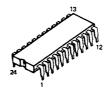
# Semiconductor Lead Identification & Internal Diagram

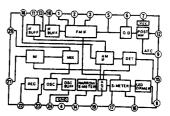
NJM46580:IC901/ NJM 4560D:IC 203(Dual OP Amp)



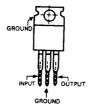


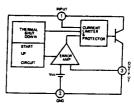
LA 1266:IC 102(IF)





GD 7815:IC901 (Regulator)





HA 12016:IC 104(MPX)



